

**Outcomes of student participation in apparel construction/sewing laboratory  
classes in southern California community colleges**

by

**Diane Evelyn Lewis-Goldstein**

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Program of Study Committee:  
Mary Lynn Damhorst, Major Professor  
Jessica Barker  
Leah Keino  
Marsha Rehm  
Denise Vrchota

Iowa State University

Ames, Iowa

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## TABLE OF CONTENTS

LIST OF TABLES	v
ACKNOWLEDGEMENTS	vii
ABSTRACT	xii
CHAPTER 1. INTRODUCTION	1
Introduction and Problem Statement	1
The Affective Domain	1
Self-Efficacy	4
Adult Learning Theory	5
Background	6
Purpose	9
Importance	9
Definitions	9
CHAPTER 2. LITERATURE REVIEW	11
Overview of Related Research	11
Historic Overview: Home Economics Movement	14
Bloom's Taxonomy	25
Specific Levels of the Affective Domain	26
Receiving, Also Called Attending, (Level I)	27
Responding, (Level II)	28
Valuing, (Level III)	30
Organization, (Level IV)	31
Characterization by a Value or Value Complex, (Level V)	32
Overview of the Levels of the Affective Domain	33
The Affective Domain	34
Comparison between the Affective Domain and Cognitive Domain	36
Positive Affect	39
Aesthetic Experiences as a Part of Affective Domain	41
Self-Efficacy	44
Learning Theory	46
Adult Learning Theorists	47
Motivations to Enroll in Classes	53
Leisure	53
Csikszentmihalyi's Flow Theory	54
Creativity	55
Therapeutic Nature of Creativity	56
Responsive Curriculum	57
Significance and Meaning of Textiles	57
Importance of Comfort in a Classroom	60
Importance of Community in a Classroom	61

Research Questions	64
Contributions to the Body of Knowledge in FCS	65
CHAPTER 3. METHOD	67
Method of Data Collection	67
Method of Sampling	67
Collection of Data	69
Instrument Design	71
Demographic Information	72
Motivation	72
Comfort in Class Participation	73
Affective Domain Levels, Self-Efficacy, Community, and General Satisfaction With the Class	76
Affective Domain	78
Receiving (Level I)	78
Responding (Level II)	79
Valuing (Level III)	79
Organization (Level IV)	80
Characterization by a Value or Value Complex (Level V)	81
Self-Efficacy	83
Sense of Community	86
Overall Feelings and General Satisfaction With the Class	87
Quality of Student Work Done for Class	89
Student Attitude Toward the Class	89
Final Comments—From Open-Ended Question	90
Questions for Instructors	90
Analysis of the Data	90
CHAPTER 4. RESULTS AND DISCUSSION	93
Demographic Information	93
Number of Units Completed	95
Sewing Experience	96
Motivation	97
Research Question 1	100
Receiving, Level I of the Affective Domain	100
Responding, Level II of the Affective Domain	101
Valuing, Level III of the Affective Domain	103
Organization, Level IV of the Affective Domain	106
Characterization by a Value or Value Complex, Level V of the Affective Domain	109
Research Question 2	113
Self-Efficacy	113
Research Question 3	118
Comfort in Class Participation	118
Sense of Community	121

Overall Feelings and General Satisfaction With the Class	123
Quality of Work Done for Class	125
Attitude Toward the Class	126
Relationships Among Variables	127
Instructor-Related Comments by Students	129
Questions for Instructors	130
CHAPTER 5. SUMMARY AND CONCLUSIONS	131
Description of the Study	131
Overview of Review of Literature	133
Research Questions	136
Theoretical Framework	137
Instrument Design	138
Description of the Sample	140
Analysis of the Data	141
Research Question 1	142
Research Question 2	144
Research Question 3	145
Assumptions	147
Limitations	148
Implications for Practice and Theory	149
Conclusions	151
Further Research	153
APPENDIX A. IRB APPROVALS	155
Iowa State University	155
California State University, Northridge	162
Community Colleges	164
Antelope Valley College	164
El Camino College	165
Long Beach City College	167
Pasadena City College	171
Santa Monica College	174
Ventura College	177
APPENDIX B. FACULTY INFORMATION LETTER	179
APPENDIX C. STUDENT INFORMED CONSENT	180
APPENDIX D. SURVEY INSTRUMENT	181
REFERENCES CITED	185

## LIST OF TABLES

Table 1. Comparison of Cognitive and Affective Domains	37
Table 2. Ethnicity of Participants and General Populations	95
Table 3. Sewing Experience: Previous Enrollment in a Sewing Class	96
Table 4. Sewing Experience: Any Informal Experience	97
Table 5. Influential Reasons for Enrollment in Class	99
Table 6. Items Related to Receiving, Level I of the Affective Domain: Descriptive Statistics	101
Table 7. Items Related to Responding, Level II of the Affective Domain: Descriptive Statistics	102
Table 8. Items Related to Responding, Level II of the Affective Domain: Factor Loadings	103
Table 9. Items Related to Valuing, Level III of the Affective Domain: Descriptive Statistics	105
Table 10. Items Related to Valuing, Level III of the Affective Domain: Factor Loadings	106
Table 11. Items Related to Organization, Level IV of the Affective Domain: Descriptive Statistics	107
Table 12. Items Related to Organization, Level IV of the Affective Domain: Factor Loadings	108
Table 13. Items Related to Characterization, Level V of the Affective Domain: Descriptive Statistics	110
Table 14. Items Related to Characterization, Level V of the Affective Domain: Factor Loadings	112
Table 15. Comparison of Means Among Levels of the Affective Domain	113
Table 16. Items Related to Self-Efficacy: Descriptive Statistics	115
Table 17. Items Related to Self-Efficacy: Factor Loadings	117

Table 18. Correlations among Self-Efficacy and Levels of the Affective Domain	118
Table 19. Items Related to Comfort in Class Participation: Descriptive Statistics	120
Table 20. Items Related to Comfort in Class Participation: Factor Loadings	121
Table 21. Items Related to Community: Descriptive Statistics	122
Table 22. Items Related to Community: Factor Loadings	123
Table 23. Items Related to Overall Feelings and General Satisfaction: Descriptive Statistics	124
Table 24. Items Related to Overall Feelings and General Satisfaction: Factor Loadings	125
Table 25. Correlations among Variables	129

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## **ABSTRACT**

This exploratory study was an attempt to understand the types of affective learning. The study focused on beginning students who were enrolled in apparel construction/sewing laboratory in community colleges within Los Angeles and Ventura counties during the spring of 2009 ( $n = 155$ ). The primary purpose of the study was to develop scales that would measure the multiple levels of the affective domain and perceived self-efficacy of student participation in class. The relationships among the scales were investigated. Other scales were developed to measure related variables such as how comfortable students felt participating in class, the students' sense of community, the students overall feelings and general satisfaction with the class, the quality of student work done for the class and the students' attitude toward the class. Factor analysis was used to assess the conceptual validity of each scale. All scales were valid and reliable.

Bloom's Taxonomy of the affective domain was used as the basis to create scales to measure the five different hierarchical levels of the affective domain: receiving, responding, valuing, organization, and characterization. Self-efficacy scales were based upon existing scales grounded in the work of Bandura.

Illeris' adult learning theory was used to frame the study. In this theory the affective domain works with the cognitive domain when adults internalize knowledge. There is also a social interaction process that has to occur during adult learning. Illeris's theory was supported by the results of this study, as evidenced by some students reaching high scores on the organization and characterization levels of the affective domain, indicating internalization of knowledge.

Other findings included high scores for comfort in class participation, but only average scores related to feeling a sense of community. Student's overall feelings and general satisfaction with the class were high. This sample judged the quality of their work and their attitude toward the class to be high. Pearson correlations revealed moderate and strong relationships between most variables. In general, the findings strongly support Bandura's work in self-efficacy and make a case for including affective domain outcomes in community college apparel construction/sewing laboratory classes.

## **CHAPTER 1. INTRODUCTION**

### **Introduction and Problem Statement**

Bloom's Taxonomy is often the starting point for writing and assessing educational objectives (Anderson et al., 2001; Bloom et al., 1984; Krathwohl, 2002; Krathwohl, Bloom, & Masia, 1964). It includes a classification of cognitive, affective, and motor skill levels. Linn and Miller (2005, p. 53) outlined the divisions of Bloom's Taxonomy to illustrate that objectives fall into three major areas:

1. Cognitive Domain: Knowledge outcomes and intellectual abilities and skills
2. Affective Domain: Attitudes, interests, appreciation, and modes of adjustment
3. Psychomotor Domain: Perceptual and motor skills

While many educators are familiar with the cognitive domain, emotional or affective dimensions of courses are usually not considered or evaluated in educational settings (Krathwohl et al., 1964). Using the framework of adult learning theory, this research study specifically investigates the affective domain and self-efficacy of students enrolled in beginning apparel construction/sewing laboratory classes to more completely evaluate educational objectives.

This introductory chapter will present a brief overview of the affective domain, self-efficacy, and adult learning theory as these topics relate to the purpose of this study. A section on the background issues surrounding this study is followed by the purpose of the study with the definition of terms concluding this chapter.

### **The Affective Domain**

Ashby, Isen, and Turken (1999, p. 529) pointed out that "feelings permeate people's daily lives" and cognitive functions are generally carried out under some

affective state. Isen (2001, p. 75) reported that a “positive affect facilitates systematic, careful, cognitive processing, tending to make it both more efficient and more thorough, as well as more flexible and innovative.” Accordingly, the affective domain overlaps with and contributes to the cognitive domain (Ashby et al., 1999; Isen, 2001). Pierre and Oughton (2007) argued that the affective domain is frequently overlooked because of a lack of studies dealing with evaluation of that domain. A thorough search of literature by this researcher did not reveal any scales available that measure the affective domain in the clothing and textile area of family and consumer sciences. Consequently, this study was designed to use apparel construction/sewing laboratory classes as the context to explore the assessment of the affective domain.

When grades are involved in apparel construction/sewing laboratory classes, common at university and community colleges, cognitive and psychomotor domains usually form the basis for grades. Within the cognitive domain, students in an introductory course gain factual knowledge of sewing terminology and are able to recognize and recall the terminology. Ideally students are able to apply their factual knowledge through the selection of appropriate fabric and patterns and utilize their skills to create a few simple garments. Within the psychomotor domain, students demonstrate that they can use a sewing machine and pressing equipment and are able to assemble items using standard sewing procedures and sequencing (see Linn & Miller, 2005). Students are expected to remember, understand, apply, and hopefully by the end of the term, analyze, evaluate and create within the major types of knowledge: factual, conceptual, procedural, and metacognitive (Anderson et al.,

2001). The specific student outcomes listed for beginning sewing from the California community college Family and Consumer Sciences program plan (2009) are as follows:

1. Identify the differences between knit or woven fabrics and compare patterns that are appropriate to each fabric construction
2. Demonstrate an understanding of information that appears on labels and bolt ends concerning fiber content, finishes and care
3. Compare commercial patterns vs. industry patterns
4. Demonstrate how to adjust a sewing machine to accomplish a number of basic stitches, buttonholes and hems and use a variety of pressing aids and sewing notions properly
5. Construct beginning level sewing projects in woven or knit fabrics  
(California, 2009, p. 140)

Even though there are no affective outcomes included in the model curriculum, there is a relationship between affective outcomes acquired during a laboratory situation and cognitive skills. Ashby et al. (1999) and Isen (2001) reported that feelings, or affect, influence decision-making and problem solving. “A positive affect enhances problem solving and decision making, leading to cognitive processing that is not only flexible, innovative, and creative, but also thorough and efficient” (Isen, 2001, p. 75). Levin and Isen (1975) had earlier experimented with the effect of feeling good on helping. A person with a positive affective state was more likely to help others. Laboratory classes frequently involve one student helping another, which is the basis of peer or cooperative learning (Topping, 2005).

Measuring the affective domain may reveal something that is acquired but overlooked in evaluation. Recognizing affective outcomes as a significant part of what happens during the experience of a sewing laboratory class may help educators to enhance cognitive outcomes. When the affective and cognitive



domains work together, there may be a higher level of internalization of learning. Additionally, Bandura (1994) indicated that a positive attitude has a positive effect on self-efficacy. The affective domain also promotes recognition and appreciation of aesthetic values (DeLong, Wu, & Bao, 2007; Fiore, Kimle, & Moreno, 1996c; Suhor, 1998/1999), which in turn can help in creating meaning in a person's life (Csikszentmihalyi & Rochberg-Halton, 1981) as well as help with decision-making skills and creative problem solving (Ashby et al., 1999).

### **Self-Efficacy**

Self-efficacy is the perception of the self's ability to do a task (Bandura, 1994, 1997). Self-efficacy beliefs have been used as predictors of students' academic motivation for achievement (Zimmerman, Bandura, & Martinez-Pons, 1992), and motivation is an important aspect of learning (Knowles, Holton III, & Swanson, 2005). It has also been linked as a mechanism for personal and organizational effectiveness (Bandura, 2000), because possessing knowledge and skill does not necessarily mean that a person will perform optimally (Bandura, 1982). In essence, a person's belief in his/her capability to do a task will influence how successful that person will be, not only in the task in question, but also in other tasks. A person with high self-efficacy will try harder than a person who has low self-efficacy. Academic environments are primary settings for studies involving the measurement of self-efficacy. This exploratory research project is designed to look at the relationship between affective domain and self-efficacy, as well as explore relationships among students' perceived self-efficacy, how comfortable students feel participating in class, students' sense of community, students' overall feelings and general

satisfaction with the class, quality of student work done for the class, and students' attitude toward the class.

### **Adult Learning Theory**

Illeris' learning theory is used in this study as a framework to understand the process that occurs in the laboratory classroom in a community college. Brookfield (1995) proposed that further research in adult learning should address both emotion and cognition. Illeris has done this. Knud Illeris (2003b) viewed learning from the adult learners' perspective and sought to modernize learning theory for the current "knowledge society" (2003b, p. 167). He attempted to incorporate past learning theories into his own, explaining how each learning theory contributed to his. Illeris contended that a theory was needed that accepted the two distinct areas of learning that occurred simultaneously, one an individual acquisition process of cognitive and emotion components and the other a social process of interaction between the individual and others in society (Illeris, 2003a). Additionally, he acknowledged that learners are individuals who have specific life histories and situations. The framework Illeris (2003a) developed was leading toward "relatively lasting changes of capacity" (2003a, p. 307) and he suggested:

. . . that all learning includes three dimensions, namely, the cognitive dimension of knowledge and skills, the emotional dimension of feelings and motivation, and the social dimension of communication and cooperation—all of which are embedded in a societally situated context. (2003a, p. 396)

Using a lens of adult learning can lead to an overall understanding of the connection between the affective and cognitive domains as well as a connection

between the domains with social context and cooperative learning experiences of a laboratory class.

Laboratory classes emphasize experiential learning. Dewey (1938/1997) held experiential learning in high regard for engaging students and providing a basis for positive learning experiences in the future. Werhan, Buckland, and Vollmer (2004) thought it ironic that other academic areas have “discovered” (p. 54) the types of experiential learning activities used in apparel construction/sewing laboratories and endeavored to incorporate sewing activities that promote problem-solving and decision-making skills, such as quilting, in a geometry lesson.

### **Background**

Learning to sew can be an enjoyable, fun (Blood, 2006), and creative (Chaker, 2006; Loker, 1987; Schofield-Tomschin, 1999) process. Creating something from a piece of cloth, can be empowering (Clover, 2004; Foss, 1996; Gordon, 2005) and, especially in a responsive classroom, can build awareness of the importance and meaning of textiles in everyday life (Peterat, 1999).

Werhan et al. (2004) suggested that even within the field of family and consumer sciences there is a stigma in learning to sew. Some educators consider that these classes are designed to teach outdated skills of homemaking and reinforce traditional female roles, while other educators regard the students who are learning sewing skills to be less academically inclined, of lower intelligence, or of a low social class. With so many opinions about learning sewing skills, Werhan et al. (2004) wondered if this type of ambiguity of sewing instruction contributed to its omission in schools. If sewing does not appear to have a place in schools, then one

might expect it to have a place as a handcraft. Johnson and Wilson (2005) defined handcrafters as creating individual (rather than mass-produced) textile items and included members of a sewing group in their research sample. However, even Johnson and Wilson (2005) did not include sewing as a focus of handcrafters when looking at motivational factors among contemporary handcrafters. They did include an example of one participant's recollections of children and grandchildren remembering special dresses she had made for them in the past, and specifically noted in another example, "...my mother always sang or hummed when she was sewing, and my daughter remembers sitting on her lap. It is special" (2005, p. 122). Buckland, Leslie, and Jennings-Rentenaar (2009) considered sewing as an important part of the needle arts in a hundred-year history of family and consumer sciences. They noted the continual criticism of inclusion of this area by home economists/family and consumer scientists in the United States compared to Europeans in the same field of study, who generally recognized the value and benefits of sewing in curricula. Buckland et al. (2009) understood the notion that sewing could be considered a vocation and belonged solely in trade schools, but they also wondered if the difficulty of assessing the aesthetic nature of sewing helped to push it to the margins of this field.

In the Los Angeles area of southern California, two-year educational programs have tended to eliminate apparel construction/sewing laboratory classes in the last several years, a casualty of the closing of their clothing and textiles programs. The general pattern is that the program closes upon the retirement of the last (and often the only) full-time faculty member in that area. A laboratory class,

compared to a lecture-type class, serves fewer students due to space and equipment limitations. In addition, apparel construction/sewing laboratory classes are expensive to teach because of the cost of purchase and maintenance of required machinery. The closure of these laboratory classes has an immediate impact on state university schools because demand for those classes often outpaces supply of offered sections. Informal conversations with Family and Consumer Sciences (FCS) teachers in secondary schools indicate that although they have programs including clothing and textiles, high costs keep them from offering apparel construction/sewing laboratory classes.

This researcher has not taught apparel construction/sewing laboratory classes at the community college level but has taught several different clothing and textile classes at local community colleges. She has taught apparel construction/sewing laboratory classes in university and adult education settings. The premise of this study began with the perception of the researcher that laboratory classes in apparel construction/sewing offer much more than basic sewing skills to students. During doctoral studies, an assignment in an assessment course led to a focus on the affective domain. As an instructor dedicated to improving learning in the classroom, this led to the appreciation of assessing different aspects of learning in class, and eventually, to the development of this study. The present research provided an opportunity to explore the contributions of apparel construction/sewing classes to students.

### **Purpose**

This study was an exploratory attempt to develop an instrument that would measure the multiple levels of the affective domain and the self-efficacy of community college students enrolled in beginning apparel construction/sewing laboratory classes. Measures of related issues, such as motivation, sense of comfort, sense of community, and satisfaction with the class were also developed and assessed for relationships to the affective domain of learning and self efficacy.

### **Importance**

This study provides support for educators who desire to engage students in the learning process. No scales to measure the levels of the affective domain, perceived self-efficacy, level of comfort, or sense of community exist in the area of beginning apparel construction/sewing laboratory classes, and this exploratory research is an initial attempt to develop them. Isen (2001) indicated that a positive affect enhanced cognitive functioning. Bandura (1994) linked a positive affect to increased perceived self-efficacy, which Zimmerman, Bandura, and Martinez-Pons, (1992) used to predict academic success. Research also suggests that adult learning is enhanced within a comfortable setting (Knowles, et al., 2005) and when students express a feeling of community (Bogue, 2002; McKinney et al., 2006). A more complete perspective of the learning in apparel construction/sewing laboratory type classes can provide insight into other learning environments.

### **Definitions**

To facilitate understanding, the following definitions are provided.  
Apparel construction/sewing laboratory classes: these terms are used as

synonyms as there are a variety of titles for classes in this area, including clothing construction and fashion sewing. Piecing fabric together by sewing to create something new, such as a garment, takes place in these classes (see Buckland et al., 2009).

Community: “A body of people having common organization and interest, joint participation, and a common character” (Brown, 1995, p. 27).

Community college: “a 2-year government-supported college that offers an associate degree” (*Merriam-Webster® Online Dictionary*).

Creativity: “the skill of bringing about something new and valuable” (Walker, 1990, pp. 483-484).

Flow: an experience (frequently a creative activity) that is “so engrossing and enjoyable that it is...worth doing for its own sake even though it may have no consequence outside itself.” (Csikszentmihalyi, 1999, p. 824).

Hedonic: “of, relating to, or characterized by pleasure” (*Merriam-Webster® Online Dictionary*).

Peer learning: “the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions” (Topping, 2005, p. 631).

Perceived self-efficacy: “is concerned with judgments of how well one can execute courses of action required to deal with prospective situations” (Bandura, 1982, p. 122).

## **CHAPTER 2. LITERATURE REVIEW**

### **Overview of Related Research**

This chapter begins with a review of specific studies directly related to sewing and continues with a broad overview of the history of home economics/family and consumer sciences as it relates to teaching sewing. Keeping in mind that the purpose of this exploratory study was to create a scale to measure the levels of the affective domain and perceived self-efficacy of students enrolled in beginning apparel construction/sewing laboratory classes, an introduction to Bloom's Taxonomy and an in-depth review of the affective domain and self-efficacy follows. Learning theory, with an emphasis on adult learning theorists, is explored. The latter parts of this chapter review specific areas directly related to this study, such as motivations for enrolling in this type of class and the importance of comfort and community in a classroom. This chapter concludes with the research questions for this study.

The study of outcomes of apparel construction/sewing laboratories has not been undertaken prior to this research. Few studies have been conducted related to sewing education. Two researchers explored motivations for taking sewing classes (Drohan, 1987; Lutz, 1957), and one (Ostapovitch, 1961) studied motives for home sewing, based on several studies done in the 1950s. There have been some studies not related to sewing education in particular but to related topics, such as a study that examined friendships, self-identities, and successful aging of women in quilt guilds (Schofield-Tomschin, 1997). Both Connolly (1994) and Fernandez (1987) took an historical look at home sewing in the late nineteenth century. Blood's (2006)



study found that Csikszentmihalyi's theory of flow may be useful in the clothing and textile area because participants in her study experienced greater flow experiences as they continued their involvement in non-industrial textile production. However, no studies measuring specific outcomes of classes in apparel construction/sewing laboratories have been found.

Learning how to sew is a topic that has been both enthusiastically discussed and hotly debated. The image of sewing machines in a classroom has been associated with negative feelings toward the field of home economics/family and consumer sciences (FCS), suggesting to others that the field is solely comprised of "stitching and stirring" (East, 1980; Erwin, Moran III, & McInnis, 1996). Considering clothing a basic human need (Nygren, 1989), along with food and shelter, is common. However, some authors express that clothing does not qualify as a basic need, but rather that it specifically satisfies basic physical and psychosocial needs (Pederson, 1989).

Sewing has also been viewed from feminist perspectives, with opinions ranging from confinement of women to a low-status gender role (Connolly, 1994) to empowerment. Clover (2005) stated: "Empowering women to speak out is premised upon finding media with which they are comfortable and which offer ways to express a diversity of feelings and perceptions" (p. 632). In looking for an alternate strategy for emancipation, Foss (1996, pp. 63-70) moved inward to "re-source" or find another source for spiritual energy after the completion of her teaching responsibilities each academic year. She carefully explained the several steps of her sewing as a ritual. First in the ritual was entering a "marginalized space" where joy

and cooperation were found (a fabric store filled with colors and textures).

“Cleansing” or purification occurred as she made space for her sewing and preshrinking of fabric, and “demarcation of boundaries” took place as she brought out sewing equipment and created a space to sew. “Working magic” indicated that she engaged in the work that realized the purpose of the ritual, which was the sewing and creation of a garment. During this time she experienced what Csikszentmihalyi (1990) described as flow. As she transitioned to return by cleaning up, she was then ready to publically display the garment by wearing it as an “emblematic display.” The garment symbolized her change.

In a similar way, Gordon (2004) explored home sewing as “gendered labor” but “also as an escape from drudgery and a tool for self-definition” (p. 69). She noted that the garments women created were admired outside of the household, thus they were a cause for pride and satisfaction as well as a reinforcement of the value of thrift. Nonetheless, clothing manufacture was not solely within the domain of the women of a household, especially as people increasingly became consumers of mass-produced fashion.

Sewing is typically required in curricula for those who are seeking degrees in the fields of fashion and FCS education. Within California, and other states as well, it has been a part of FCS and fashion programs in community colleges, state universities, and a variety of private institutions. Television shows that revolve around fashion design, such as “Project Runway” and those that revolve around do-it-yourself home decorating, such as “Trading Spaces,” have spurred interest in sewing classes (Cox, 2005; Hamilton & Hylton, 2006).

### **Historic Overview: Home Economics Movement**

Improving daily life was at the heart of the home economics movement, which was the antecedent of family and consumer sciences. In the early 1900s, after a series of ten conferences devoted to the scope and mission of this new field, home economics was launched as a profession in 1909 (Stage, 1997). Ellen Swallow Richards, who had been deeply involved in the inception of the field, was elected as the first president of the national professional organization, the American Home Economics Association, AHEA. She was a well-educated leader of her time who envisioned the field as an opportunity for educated women to flourish while improving the standard of living for families (Stage, 1997). Many of the women involved in AHEA were well educated and considered it a virtue to help those who were “less fortunate” (East, 1980, p. 65). The clothing and textile area was one of several that the home economics field encompassed.

Sewing schools had been in existence prior to the launching of home economics as a field of study. Formalized sewing classes went hand-in-hand with the simultaneous development of the field of home economics. Home economics reflected American ideology and values of educational opportunities for women as well as nineteenth century ideology and values that shaped social roles for women (Helvenston & Bubolz, 1999).

Mary Urie Watson, an early home economist, addressed the question of the value of sewing in 1901 (as cited in DeZwart, 1993, p. 14):

[P]roperly taught, sewing engenders a habit of observation, a knowledge of the difference between accuracy and vagueness, which wrought into the mind remain there as a lifelong possession. It confers precision, because, if you are

doing a thing, you must do it definitely right or definitely wrong. It gives honesty, for when you express yourself by making things, and not by using words, it becomes impossible to dissimulate your vagueness or ignorance by ambiguity.

DeZwart (1993) considered the “honesty” (1993, p. 14) of sewing that Watson touted to be sewing’s true value that is still appreciated today.

Mary Woolman had written an instruction manual for sewing teachers in 1893. In the revised fifth edition in 1914, she indicated that sewing would be “of life-long use to the children” and may serve “as an effective basis for vocational life” (Woolman, 1914, pp. 8-9). Additionally, the task of learning to sew would increase the ability of a student to help others. Woolman envisioned a student who “shows her connection of her work with the world’s industrial interests, and makes her sympathetic with, and appreciative of, the army of those who work” (1914, p. 9). Sewing would “add to the mental and moral strength of children” (Woolman, 1914, p. 9) and should bring out the creativity of the students as well. Sewing included the study of textiles, conditions of the factories, design, and knowledge of sewing done in other cultures.

Historically, courses in apparel construction/sewing have fostered critical thinking. French (1917) followed a philosophy of teaching similar to critical thinking and encouraged interdisciplinary thinking. She warned that simply teaching “seams and garments” (1917, pp. 61-62) was a mistake. The subject of clothing relates to almost every other subject taught, such as history (how political conditions were an influence on fashion), physics (how sewing machines worked), chemistry (how fabric

can protect against heat or cold, microscopic examination of fibers, textile testing), physiology (how the body moves in clothes), as well as drawing and design.

By the end of the 19<sup>th</sup> century, standardization and mechanization led to widely available ready-made clothing for both women and men (Kidwell & Christman, 1974). “The ‘Great Migration’ from eastern and southern Europe, beginning in 1880 and continuing until the passage of the restrictive immigration laws of the 1920s, coincided with the greatest growth of the ready-made clothing industry” (1974, p. 87). The labor for this growing industry came from immigrants and young women who were entering the workforce. At that time, the National Consumers’ League investigated the type of work and the expenses of the women workers in New York. The working conditions for the young girls selling, sewing, and laundering fashionable garments were miserable across the board (Clark & Wyatt, 1911). It was noted that when young women purchased inexpensive garments the durability was poor, yet the hours and physical toll of their work left them little time or energy to save money by sewing higher quality garments at home.

Near the beginning of the home economics movement, a 1915 article in *The Journal of Home Economics* explored the costs and acceptable standards of both food and clothing made at home versus purchased by a commercial manufacturer. The author, Anna Barrows from Teachers College in New York City, asked readers to consider both the quality and value of the time of the homemaker when comparing costs. She acknowledged that current readers may not have the skills to make things at home in “these highly specialized days” (Barrows, 1915, p. 83) and concluded with a request to readers to send in records as to the comparable costs

between homemade and commercially made items. Clothing expenses remained a focus of the time, as a short time later Gray (1916) published, in the same journal, information for parents concerned about the future living expenses of women students at the University of Illinois. Gray presented the results of 53 junior and senior women who kept track of their expenses for three months during their semester while enrolled in a Household Management class. The average clothing expenses, including laundry and dry-cleaning, rivaled the cost of board: 29.7% compared to 32.9% respectively, of the average total expenditures for the time period between February 15 and May 15, 1915. Gray noted that clothing costs were the most difficult to predict. Because it was such a short time period, the clothing costs were likely influenced by how much money the student had available to spend.

A study by Gibbs (1917) considered the ideal division of the limited household income of 75 families living in New York City, based upon information she began to gather in 1914. Clothing expenses were to be 15% of the family budget, supplemented by gifts of clothing. "It was understood that this would provide sufficient clothing only on the condition that the mother would have time and strength as well as ability to do her own sewing and mending" (Gibbs, 1917, pp. 23-24). Gibbs referred to the importance of the sewing teacher several times in her book and alluded to sewing lessons planned to keep the family budget on track. Clothing was essential to help "conserve the family self-respect and happiness" (Gibbs, 1917, p. 7). Leeds' (1917) analysis of budgets of middle class families in Philadelphia in 1914 and 1915 indicated that percentage of income spent on clothing was second only to food expenditures. Cranor (1920) considered the dilemma of, "how to be well

dressed at the least possible expense” (1920, p. 230). She explored the benefits and costs of making clothes versus buying them but cautioned that the working conditions under which they were made were just as important as the quality of the garments (Cranor, 1920).

Brown (1923) questioned the justification of clothing construction classes. In the early 1920s, as the home economics movement was gaining momentum, the value of apparel construction continued to revolve around cost savings for the individual. Only 50% of the women surveyed indicated that they enjoyed making clothing (Brown, 1923, p. 90). A short time later, Potter (1926) presented the results of a questionnaire completed by high school girls, which revealed that clothing selection was becoming more relevant to them than the skills of construction. Potter also indicated that rural women were primarily constructing “house dresses and undergarments” (1926, p. 576) while urban women were constructing about half of their dresses and purchasing the other half. She proposed decreasing the skills portion of their classes and increasing “training in appreciation and consumer’s judgment” (1926, p. 596). Much later, Lutz (1958, p. 113) surveyed Illinois women regarding their reasons for enrolling in “adult classes in clothing.” Her findings indicated that women were more likely to sew for economic value and felt pressure to learn traditional homemaking skills more than sew for pleasure, creative expression, or the finished product.

Anspach (1959) reviewed the research that had been done in the clothing field in home economics from 1925 to 1958. She found that the research was consumer-oriented and centered on “design, selection, economics and

management, home sewing, market policies, and maintenance” (1959, p. 767). Her time orientations were related to major events: pre-Depression years (1925-1929), Depression years (1930-1939), World War II years (1940-1945), and postwar inflation (1946-1958). Throughout these time groupings, the design category captured the majority of research reports from 1925-1929, 1930-1939 and 1946-1958. Within the design category, the most prevalent design factor was service and durability (1959, p. 769). Anspach indicated that concerns of the Army prompted research in care and durability, while producers and retailers of clothing were interested in the motivations of those who purchased clothing. Unlike previous decades, concerns about price related to quality comprised a very small percentage of the research reviewed by Anspach. Her view in the late 1950s was that the American woman exercised her “creative function as a consumer” within a “larger role as transmitter of the culture” (1959, p. 770) and saw fashion change as a manifestation of a “large middle class” with a “rich culture,” with clothing being the “symbol of taste” (1959, p. 770).

According to Johnson (1960), who was reporting on “a new direction in clothing construction,” home sewing in the 1960s was at an “all-time high” (1960, p. 752), and now women were sewing to express their creativity and individuality. Johnson’s perspective as a home economist in business was to sell new sewing machines, new fabrics, and new patterns that had simplified the techniques in such a way that any woman could become “a skilled artisan” (Johnson, 1960, p. 753). She stressed that practical, not theoretical, knowledge was vital for the home economist who would be demonstrating in this field. It appeared that the American woman was



retaining her position as a consumer and sewing was sold to her as an activity for leisure and a way to express her individuality and creativity. Werden (1960) supported clothing construction classes in college programs as a basis for further knowledge in creative and technical fields. Also responding to the new direction of the field of home economics in general and the clothing area in particular, Warning (1960), who was the head of the Department of Textiles and Clothing in the College of Home Economics at Iowa State University, called for more research in this area. In looking at changes in culture related to clothing, she gave an example of the “deep feeling of enjoyment and satisfaction” that occurred when a “mother and daughter, two people of widely different ages and interests,...planned, selected and purchased materials for and actually created a beautiful garment for the little girl” (p. 650). Acknowledging society’s changes, she asked what a mother or child might lose if a child’s clothes are not made at home and if the losses might be replaced. Research could help answer questions about change and the new direction of the field.

About the same time, Ostapovitch (1961) found that home sewing remained an activity of “high interest” (1961, p. 29) for the Michigan women she surveyed, who sewed primarily because they enjoyed the activity and because it saved them money. It served as a creative outlet for the women as well. Ostapovitch did find that motivations differed between social status and income levels, as women of lower social status and women in lower income categories cited economic reasons as their primary reason for sewing. Furthermore, she noted that high school clothing

construction classes and adult evening classes were the formal sources of training for the women she surveyed.

Loker (1987) revived the discussion about teaching sewing, citing the loss of many clothing construction classes across all levels of education. A review of ready-to-wear costs compared to home-produced garments revealed that ready-to-wear was less expensive at low, medium, and high price points, so economy was no longer a valid argument for teaching these classes. Her arguments for teaching clothing construction classes, besides skill development, included the value of creativity, increased self-esteem, pride in accomplishments, and recognition of the quality of garments.

Peterat (1999) wondered if students who enrolled in courses in textiles and clothing were “limiting their own futures or...accessing an empowering and liberatory force in their lives” (1999, p. 9). Acknowledging that there had been little research done in the area of textile studies curriculum, especially in Canada, she examined 15 exemplary Canadian cases in her book, *Making Textile Studies Matter*. Peterat found that all cases shared a common concept of being “responsive curriculum” (1999, p. 206) in that the classroom atmosphere was not dictated by a textbook or exams, but rather a response to “the realities of students’ lives” (1999, p. 206). Peterat sensed an obligation on the part of the teachers to meet the needs and interests of the students. Visibility was another shared concept Peterat discovered. Some teachers indicated that they must constantly promote and defend their classes or find a way to make the class stand out, because elective classes are frequently marginalized. Many of the classes Peterat investigated were classified as elective or

complementary classes, so maintaining enrollment was a challenge. Visibility helped to keep these classes from the marginal realm.

The field of home economics has undergone many changes in the last 100 years; among them was a name change to family and consumer sciences (FCS) in the 1990s, but the debate about teaching sewing continued. Brandes and Garner (1997) made a strong case for teaching clothing construction in high schools because many fashion industry careers require basic construction knowledge. They described that high schools need to prepare students for university classes. Basic concepts such as the grain of the fabric and understanding about how the construction of fabric (types of weaves and knits) influence the drape of a garment prepare students to advance and truly understand garment quality.

While many administrators have a misguided belief that clothing construction classes are teaching outdated skills, the outcome has been university programs that need to teach remedial skills before continuing on with more complex skills such as computer aided design (Brandes & Garner, 1997). Werhan et al. (2004) voiced another concern about removing classes from middle schools and high schools. The potential loss of sewing skills for future teachers in the field would affect teacher preparation. FCS teachers in Ohio were finding their lack of skills to be a problem. Lee (2002) found discrepancies between the FCS Education National Standards and the perceptions of North Carolina FCS high school teachers about the importance of teaching clothing construction skills in classes in clothing and textiles programs. The national standards did not put an emphasis on teaching clothing construction skills in the programs because in today's society "few individuals actually construct their own

clothing” (2002, p. 27); however, results of a random survey of North Carolina FCS high school teachers indicated that the teachers placed a high value on teaching clothing construction skills. The reasoning by the teachers was that the most frequently offered second course was clothing design, which relied heavily on knowledge of clothing construction skills. After a thorough review of literature, review of survey results, and general open discussion by FCS state consultants, teacher educators from the state’s universities, and secondary FCS teachers, the basic clothing construction skills were retained as a part of teacher competencies. Ward and Lee (2005) assessed the clothing construction skills of teachers in North Carolina and found them adequate with a traditional sewing machine but marginal with a serger. A recommendation to acquire additional training was made, because clothing construction knowledge remains integral for successful employment in the textile and apparel industry.

Montgomery (2006) revisited the question about the usefulness of sewing classes in family and consumer sciences, as most individuals are consumers rather than producers of their clothes. She did not advocate elimination; she proposed a critical-science approach, as opposed to a technical skills approach, in order to realign the course with the current curriculum models. If students only learn sewing skills, they are not likely to be prepared for their future as a member of a family, community, or society. Using a critical-science approach, the focus of the class would broaden to include practical reasoning and problem solving based on concerns the family, community, or society might have, such as the needs of children in poverty. The class could execute a sewing-based project that meets

those needs, thereby gaining some technical skills. The focus of a critical-science based classroom is on collaborative processes by the students, not the expertise of the teacher.

Cindy Quilling (2006), a middle school teacher, emphasized a critical-science approach as means of instilling employability skills which transfer beyond school—skills such as time management, task analysis, practical reasoning and problem solving. The students gain some technical knowledge and skills as they complete service-learning projects. She acknowledged that students might use the technical skills in their future as they pursue leisure activities. Recently in the *Journal of Family and Consumer Sciences*, Buckland et al. (2009) wrote a 100-year retrospective on needle arts that included sewing. Acknowledging that needle arts articles had been largely missing from the journal, except for cross-cultural studies; they presented arguments for inclusion, including using needle arts as stress reduction. Lambert's theory of depression as a result of limited hand motion in our society was cited. She posits that brain chemicals that would reduce depression were released through specific hand activities such as needle arts. Further investigation of Lambert's work suggested that activities that activate both hands, such as sewing, activate extensive circuits throughout both hemispheres of the brain and also allow the brain to access positive emotions which act as buffers against depression (Lambert, 2008, p. 89).

### **Bloom's Taxonomy**

Educators are instructed and encouraged to provide clear learning objectives for their students. Instructional objectives and goals not only help students, they help educators clarify what is important and form a foundation for assessment.

Bloom's taxonomy is often mentioned as a starting place for educators to pattern their objectives, as the taxonomy provides a comprehensive classification system of educational outcomes (Linn & Miller, 2005). Krathwohl (2002) described that, beginning in the late 1940s, the original framework was developed by a group of measurement specialists who worked under the direction of Benjamin Bloom, the Associate Director of the Board of Examinations at the University of Chicago. Bloom had hoped that the work on a classification system would help "reduce the labor of preparing annual comprehensive exams" (2002, p. 212). He viewed the taxonomy as more than a measurement tool and hoped that it would provide a "common language about learning goals" and be used as a standard whereby courses and curriculum could be compared and contrasted (2002, p. 212). Meetings with examiners from universities and colleges with Krathwohl et al. (1964) revealed that most educational objectives were centered in the cognitive domain. Instructors tend to feel comfortable working with cognitive domain objectives that assess knowledge outcomes.

What is known as "Bloom's Taxonomy" generally focuses on the cognitive taxonomy. Krathwohl (1994) indicated that he was "aware of twenty-one foreign-language translations" of the *Handbook* (1994, p. 184). A testament to its

importance, Anderson and Sosniak (1994, p. vii) set forth the following in the preface of their retrospective book:

Arguably, one of the most influential educational monographs of the past half century is the *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain*. Nearly forty years after its publication in 1956 the volume remains a standard reference for discussions of testing and evaluation, curriculum development, and teaching and teacher education. A search of the most recent *Social Science Citation Index* (1992) revealed more than 150 citations to the *Handbook*....Few education publications have enjoyed such overwhelming recognition for so long.

With such praise for *Handbook I*, *Handbook II: Affective Domain*, was certainly eclipsed. The popularity of the cognitive domain handbook overshadowed the development of the affective taxonomy by Krathwohl et al. (1964). Yet even those scholars (Anderson et al., 2001; Marzano & Kendall, 2007) who presented new taxonomies of educational objectives were strongly influenced by the affective domain taxonomy set forth in *Handbook II*. A taxonomy of affective domain, then, continues to be vital in education. A summary of the handbook of the affective domain from the original *Handbook II* (Krathwohl et al., 1964) along with an updated educational prospective by Linn and Miller (2005) is set out below.

### **Specific Levels of the Affective Domain**

The affective domain is made up of five different hierarchical levels: receiving (level I), responding (level II), valuing (level III), organization (level IV), and characterization of values (level V). At the lowest level a person simply attends to learning, and at the highest level a person's behavior has changed because of internalization of values. Each level of the affective domain is comprised of several

subcomponents and is described in detail below. A general summary of each level is found at the end of the description.

**1.0 Receiving (also called attending), level I.** “At this level we are concerned that the learner be sensitized to the existence of certain phenomena and stimuli” (Krathwohl et al., 1964, p. 98).

**1.1 Awareness.** This category is “almost a cognitive behavior” (Krathwohl et al., 1964, p. 98). However, instead of expecting that an individual can recall certain information, the affective domain at the awareness level simply requires that “the learner will merely be conscious of something—that he take into account a situation, phenomenon, object, or state of affairs” (1964, p. 99). Krathwohl et al. continued by indicating that although a person may be aware at a semiconscious level, the person may not be able to verbalize the awareness, or may be aware ranging from a vague level to a sophisticated level. It is difficult to test at this lowest level, as “directing the student in the test situation to these characteristics makes him, by definition, aware of them” (1964, p. 102).

**1.2 Willingness to receive.** According to Krathwohl et al. (1964), this category is a higher category, but it is “dealing with what appears to be cognitive behavior” (1964, p. 107). In this category, the individual is “willing to take notice of the phenomenon and give it his attention,” (1964, p. 107) though the individual remains neutral toward the phenomenon. Terms used in objectives within this category are “amenable to, disposed toward, [and] inclined toward” (1964, p. 107). When testing for this level of awareness, Krathwohl et al. (1964) suggested that one look for the “absence of a rejection of the stimulus” and “if there is a positive aspect



to his perception of the stimulus, it can best be described as having a tolerance for it” (1964, p. 108).

**1.3 Controlled or selected attention.** This category moves up a little further, however, “the student may not know the technical terms or symbols with which to describe it correctly or precisely to others” (1964, p. 112). At this level, the learner is expected to control his/her attention, even in the event of other distracting stimuli. Krathwohl et al. (1964, p. 112) provided a specific example that relates to the field of family and consumer sciences:

Such training is exemplified in the efforts of the home-economics teacher to make her students aware of aesthetic design in dresses. She hopes that when they have become aware of these principles in dresses, they will also see them in furnishings, architecture, city design, etc. She is concerned at this level that they be consciously or semiconsciously aware of these design factors.

When testing for this level of awareness, the student may use descriptive terms such as “favors it” or “prefers it” (1964, p. 113) when presented with an activity.

Linn and Miller (2005, p. 528) summarized the category of receiving as follows:

Receiving refers to the student’s willingness to attend to particular phenomena or stimuli (classroom activities, textbook, music, etc.). From a teaching standpoint, it is concerned with getting, holding and directing the student’s attention. Learning outcomes in this area range from the simple awareness that a thing exists to selective attention on the part of the learner. Receiving represents the lowest level of learning outcomes in the affective domain.

**2.0 Responding, level II.** This category involves active attending or compliance; it is beyond simply attending to phenomenon. While responding is still

considered a low level of commitment (not considered a value), it is considered a first stage of “learning by doing” (Krathwohl et al., 1964, p. 118).

**2.1 Acquiescence in responding.** Whether or not the student wants to, he/she complies with what has been requested of him/her. Health and safety are major areas of concern where one would find objectives listed at this level. Completing homework or observing regulations would reflect this level of responding.

**2.2 Willingness to respond.** Voluntary cooperation, or willingness, is the primary difference in this subcategory compared to the previous subcategory. English and English (1958, as cited in Krathwohl et al., 1964, p. 125) suggested that cooperation was a euphemism for obedience and disputed the word cooperation. Krathwohl et al. prefer to see the word cooperation as voluntary. This subcategory is important for education, as many objectives fit under this category. A teacher not having to prod a student distinguishes moving from subcategory 2.1 to 2.2. The student is engaged in an activity. Other cues that indicate this level of response has been met are that student work includes more than what was requested, is neat, and turned in earlier than the due date.

**2.3 Satisfaction in response.** In this subcategory, “the voluntary response that is the behavior is accompanied by a feeling of satisfaction, an emotional response, generally of pleasure, zest, or enjoyment” (Krathwohl et al., 1964, p. 130). This category is also considered important, as many educational objectives fit here as well. This level of the subcategory is highest because there will be “self-reinforcing” (1964, p. 130) actions that will affect the student’s behavior. When

testing for this level of response, one looks for “a positive emotional reaction” (1964, p. 132) accompanying a behavior. Students find pleasure and enjoyment in their activities.

Linn and Miller (2005, p. 528) gave the following description for this category:

Responding refers to active participation on the part of the student. At this level he not only attends to a particular phenomenon, but also reacts to it in some way. Learning outcomes in this area may emphasize acquiescence in responding (reads assigned material), willingness to respond (voluntarily reads beyond assignment), or satisfaction in responding (reads for pleasure or enjoyment). The higher levels of this category include those instructional objectives that are commonly classified under *interest*; [emphasis original] that is those that stress the seeking out and enjoyment of particular activities.

**3.0 Valuing, level III.** The term valuing is “employed in its usual sense” (Krathwohl et al., 1964, p. 139) in that it indicates the worth of the item, phenomenon, or behavior to the individual. This affective category is the only one that teachers commonly use in their objectives.

**3.1 Acceptance of a value.** At the lowest level of valuing, behavior of the student is sufficiently consistent to have taken on characteristics of a belief or attitude. The student merely accepts a value. “It is implied that the value is internalized deeply enough to be a consistently controlling force on behavior” (Krathwohl et al., 1964, p. 141).

**3.2 Preference for a value.** In this level of internalization, the student goes beyond acceptance “to the point of being willing to be identified with it” (1964, p. 145).

**3.3 Commitment.** “Belief at this level involves a high degree of certainty”

(1964, p. 149). The motivation is not based on “the desire to comply or obey, but the individual’s commitment to the underlying value guiding the behavior” (1964, p. 140). Linn and Miller (2005, p. 528) identified the characteristics of valuing as:

Valuing is concerned with the worth or value a student attaches to a particular object, phenomenon, or behavior. This ranges in degree from the more simple acceptance of a value (desires to improve group skills) to the more complex level of commitment (assumes responsibility for the functioning of the group). Valuing is based on the internalization of a set of specified values, but clues to these values are expressed in the student’s overt behavior. Learning outcomes in this area are concerned with behavior that is consistent and stable enough to make the value clearly identifiable. Instructional objectives that are commonly classified under attitudes and appreciation would fall into this category.

**4.0 Organization, level IV.** This category is based upon the start of building a value system. Values need to be organized into a system, complete with interrelationships among the values and recognition of dominant values (Krathwohl et al., 1964).

**4.1 Conceptualization of a value.** This level adds the quality of abstraction. The conceptualization is symbolic and may or may not be verbal. “The building of a concept requires both the process of abstraction and that of generalization” (1964, p. 155). Knowledge not directly perceived through the senses is represented in this concept.

**4.2 Organization of a value system.** Objectives at this level would require the individual to bring together and order a set of complex values with the goal of formulating a “philosophy of life” (1964, p. 159). Personality inventories attempt to

measure the traits needed for a set of values. Linn and Miller (2005, p. 528)

summarized the organization category as follows:

Organization is concerned with bringing together different values, resolving conflicts between them, and beginning the building of an internally consistent value system. Thus, the emphasis is on comparing, relating, and synthesizing values. Learning outcomes may be concerned with the conceptualization of a value (recognizes the responsibility of each individual for improving human relations) or with the organization of a value system (develops a vocational plan that satisfies his need for both economic security and social service). Instructional objectives relating to the development of a philosophy of life would fall into this category.

**5.0 Characterization by a value or value complex, level V.** At this level, Krathwohl et al. (1964) describes an individual “in terms of his unique personal characteristics...and his philosophy of life or world view” (1964, p. 165). The individual adapts behavior based on a consistent system that organizes the individual’s internalized values. It would be rare to set an educational objective at this level, because it takes experience and time for an individual to come to the point where he/she can answer, in relationship to a value system, questions such as, “Who am I? And what do I stand for?” (1964, p. 165).

**5.1 Generalized set.** Sometimes this area is discussed as “a determining tendency, an orientation toward phenomena, or a predisposition to act in a certain way” (1964, p. 166). The generalized set is what “gives internal consistency to the system of attitudes and values at any particular moment” (1964, p. 166).

**5.2 Characterization.** This level is the “peak of the internalization process” (1964, p. 170). “Thus, here are found those objectives which concern one’s view of the universe, one’s philosophy of life, one’s *Weltanschauung*—a value system having as its object the whole of what is known or knowable” (1964, p. 170). This

level is more than the generalized set level because of a greater inclusiveness and complete characterization of the individual.

Lastly, Linn and Miller (2005, p. 528) concluded with their description of characterization by a value or value complex as:

At this level of the affective domain, the individual has a value system that has controlled his behavior for a sufficiently long time for him to have developed a characteristic *lifestyle* [emphasis original]. Thus, the behavior is pervasive, consistent, and predictable. Learning outcomes at this level cover a broad range of activities, but the major emphasis is on the fact that the behavior is typical or characteristic of the student. Instructional objectives that are concerned with the student's general patterns of adjustment (personal, social, emotional) would be appropriate here.

### **Overview of the Levels of the Affective Domain**

The development of the hierarchy of the affective domain was set out by Krathwohl et al. (1964). The levels range from a person merely attending to classroom matters to internalizing values and attitudes that become a philosophy of life for the person. This domain was overshadowed by the cognitive domain and has not been fully utilized in the creation or evaluation of academic objectives. Linn and Miller (2005) provided concise summaries, which did not always mention the subcategories in each category nor develop concepts completely as Krathwohl et al. (1964) did. Still, their examples provided a succinct and clear overview of each category with general objectives and, in some cases, corresponding verbs to state learning outcomes. Linn and Miller (2005, p. 529) presented a comprehensive table of objectives in each level of the affective domain and examples of verbs that could be used to state learning outcomes.

Educators are not as familiar with this domain because few objectives are written in this area. However the domain concentrates on the importance of emotional learning. While directed to K-12 programs instead of higher education, Ragozzino, Resnik, Utne-O'Brien, and Weissberg (2003) presented a core competencies list for social and emotional learning which connected to the affective domain. The list (2003, p. 170) included "self-awareness" (being aware of what one is feeling and having self-confidence), "social awareness" (sensing the feelings of others and appreciating diversity), "self-management" (conscientiously managing emotions and perseverance), "relationship skills" (making and maintaining healthy social relationships), and "responsible decision-making" (taking responsibility for one's decisions while respecting others and basing decisions on the balance of risks and consequences). These competencies are considered "integral rather than incidental to learning" (p. 169). Bloom's Taxonomy of the affective domain could be useful in addition to these core competencies to help educators further understand the nature of the affective domain.

### **The Affective Domain**

One purpose of this exploratory study was to develop and use an instrument to measure aspects of the affective domain of students enrolled in apparel construction/sewing laboratory classes. The affective domain involves emotions and shapes or interacts with a person's interests, attitudes, values, appreciation, and personality characteristics. It begins with awareness and culminates at a person's characterization of a newly organized value system (Krathwohl et al., 1964).

Beard, Clegg, and Smith (2007) indicated that higher education has not valued affective dimensions of learning, yet literature has suggested that the affective domain must be enlisted to fully engage students in learning. Linnenbrink (2006) explained that students will be more motivated to learn and engaged in the learning process if affective domain goals were incorporated in course objectives. The affective dimension includes the notion that the climate of the classroom, the student's relationships with others, as well as their self-esteem, and how their identity is constructed, will have an effect on their learning. The results from the study of first-year college students by Beard et al. (2007) did support the importance of the affective domain, but did not support a hierarchy in the affective domain. The authors cautioned against trying to separate each emotion, as the complexity of emotions is difficult to unravel.

Adkins (2004) underscored the relationship between an employee's emotional state and performance. Employers test applicants' affective domain to see if the applicant's attitudes, beliefs, and values are consistent with those of the company. Companies want their workforce to be actively engaged, not just marking time. This relationship is likely to be relevant in educational settings also. However, Pierre and Oughton (2007) reported that affective outcomes are lacking in higher education as evidenced by the lack of "soft" skills that employees demonstrate (2007, para. 6). In addition to problem-solving and analytical skills, Pierre and Oughton listed creativity, communication, acceptance of diversity, and self-awareness, among others, as desirable skill sets needed by employees.



### **Comparison between the Affective Domain and Cognitive Domain**

The affective domain includes the unique attitudes and complex characteristics of individuals. When Krathwohl et al. (1964) first undertook the task of ordering the affective domain into a hierarchical classification, they tried to use the structure of the cognitive domain. They found that the two domains were not entirely separate. Cognitive behavior is involved with and has an affective counterpart: “nearly all cognitive objectives have an affective component if we search for it” (1964, p. 48), and “undoubtedly there is some cognitive component in every affective objective, its nature is much more easily seen in some instances than in others” (1964, p. 53). Krathwohl et al. state that affective learning is not simply a byproduct of cognitive learning; cognitive behavior is not a “means to affective behavior” (1964, p. 56) but rather a prerequisite to it.

Consequently, the categories of cognitive domain and affective domain are complementary and overlapping. The relationship between the two domains is compared in Table 1 below, adapted from Krathwohl et al. (1964, pp. 49-50). It illustrates the intent of each domain to have a corollary aspect in the other domain.

**Table 1. Comparison of Cognitive and Affective Domains**

<b>Cognitive Continuum</b>	<b>Affective Continuum</b>
“The cognitive continuum begins with the student’s recall and recognition of <b>Knowledge</b> ,”	“The affective continuum begins with the student’s merely <b>Receiving</b> stimuli and passively attending to it. It extends through” the student’s “more actively attending to it,”
“it extends through” the student’s “ <b>Comprehension</b> of the knowledge,”	the student’s “ <b>Responding</b> to stimuli on request, willingly responding to these stimuli, and taking satisfaction in this responding,”
the student’s “skill in <b>Application</b> of the knowledge that” the student “comprehends,”	the student’s “ <b>Valuing</b> the phenomenon or activity so that” the student “voluntarily responds and seeks out ways to respond,”
the student’s “skill in <b>Analysis</b> of situations involving this knowledge,” his/her “skill in <b>Synthesis</b> of this knowledge into new organizations,”	the student’s “ <b>Conceptualization</b> of each value responded to,”
the student’s “skill in <b>Evaluation</b> in that area of knowledge to judge the value of material and methods for given purposes.”	the student’s “ <b>Organization</b> of those values into systems and finally organizing the value complex into a single whole, a <b>Characterization</b> of the individual.”

*Note.* Adapted from Krathwhol, Bloom, and Masia (1964, pp. 49-50).

While the cognitive dimension is not the subject of this study, it should nonetheless be noted that the cognitive domain taxonomy has been revised by Anderson et al. (2001) and is not the same as what is presented above. Their revised (current) order for cognitive domain taxonomy is; remember, understand, apply, analyze, evaluate, and create. Additionally, the taxonomy has gone from one dimension to two. Each level of the cognitive dimension now has a dimension of knowledge; factual, conceptual, procedural, and metacognitive (Anderson et al., 2001; Krathwohl, 2002).

Many educators do not set forth affective objectives, as it would appear that they would be indoctrinating students with their own core values. Yet frequently in the aesthetic fields educators want “students to learn to recognize ‘good’ poetry, painting, architecture, sculpture, music, and so on” (Krathwohl et al., 1964, p. 56). There are hazards when an instructor’s perspective of students is only from the cognitive point of view. Krathwohl et al. (1964, p. 57) stated that the student:

may be treated as an analytic machine, a ‘computer’ that solves problems. In contrast, viewed from the affective pole, we take greater cognizance of the motivation, drives, and emotions that are factors bringing about achievement of cognitive behavior.

Motivation becomes a critical component in the way the affective domain has an effect on the cognitive domain. “The influence of hedonic tone on memory and learning is also important: children are more likely to learn and remember material for which they have a positive feeling” (Krathwohl et al., 1964, p. 57). When positive feeling increases self-discovery, “as a means of fostering interest in learning material” (1964, p. 58), then motivation leads to a feeling of self-efficacy. Krathwohl et al. (1964) noted that, “in fact, a large part of what we call ‘good teaching’ is the teacher’s ability to attain affective objectives through challenging the students’ fixed beliefs and getting them to discuss issues” (1964, p. 55). Shepard (2000) discussed the “close relationship between truly *understanding* a concept and being able to *transfer* knowledge and use it in new situations [emphases original]” (2000, p. 11). Another look at affective objectives may help educators guide students to achieve a flexible use of their knowledge.

Krathwohl et al. (1964, p. 60) aptly described the relationship between the cognitive and affective domains:

Perhaps it is analogous to a man scaling a wall using two step ladders side by side, each with rungs too wide apart to be conveniently reached in a single step. One ladder represents the cognitive behaviors and objectives, the other the affective. The ladders are so constructed that the rungs of one ladder fall between the rungs of the other. The attainment of some complex goal is made possible by alternately climbing a rung on one ladder, which brings the next rung of the other ladder within reach. Thus alternating between affective and cognitive domains, one may seek a cognitive goal using the attainment of a cognitive goal to raise interest (an affective goal). This permits achievement of a higher cognitive goal, and so on.

### **Positive Affect**

Ashby et al. (1999) and Isen (2001) explained that an affective state is active during many cognitive functions. The explanation by Ashby et al. (1999) was similar to the ladder analogy used by Krathwohl et al. (1964). Ashby et al. (1999) noted that a positive affect has been associated with improving “creative problem solving across a broad range of settings” and “greater cognitive flexibility” (1999, p. 530). A positive affect appears to allow people to access “alternative cognitive perspectives” (1999, p. 530) resulting in different ways of organizing ideas. Additionally, they provided examples of previous research that had associated a positive affect with “increased verbal fluency,” (1999, p. 530) increased perceived similarities and differences, and increased perceived richness of interesting assigned tasks (but not for uninteresting tasks). Individuals also arrived at better outcomes because of better problem-solving approaches, promoted “enjoyment of variety” (1999, p. 531) and were “able to classify material more flexibly and...better able to see ways in which nontypical members of categories can fit or be viewed as members of those

categories" (1999, p. 530). Even in negative situations, a positive affect helps coping skills. Bryan, Mathur, and Sullivan (1996) reported additional studies that related positive affective states to increasing mastery and memory of tasks, creativity, problem solving, and learning. The opposite was also discussed; a negative affect had a depressing effect on memory and learning. Isen (2000) recapitulated, "A growing body of research indicates that positive affect influences social behavior, such as helping and generosity, cognitive processes such as memory, judgement, decision making, and problem solving, and most recently motivation" (2000, p. 184).

Bolin, Khramtsova, and Saarnio (2005) suggested that a balance is needed between teaching to the cognitive and affective domains. Neglecting the affective domain in education may lead to students who do not find value in the information they have learned. Neglect reduced learning and retention, while "teaching within the affective domain is strongly linked to the scholarly growth of college students" (2005, p. 154). They used student journaling to address affective levels and found that students saw the value in the information learned and in addition, gave a higher course evaluation.

Graham (2003) explained that educating professionals in human service areas requires teaching and learning in the affective domain. The different dimensions of the affective domain Graham included were motivational, aesthetic, emotional, spiritual, and moral development. Consequently, "the more a value or attitude is internalized, the more it affects behaviour" (p. 59). Burgi-Golub (1997) explored emotion as a dimension of ethical and moral motivation. Science education also showed benefits of learning in the affective domain, as motivation to be a good

steward for the environment was based upon the same moral behavior to act responsibly and care for others (Littledyke, 2008; Shephard, 2008).

Ashby et al. (1999) proposed a theory that positive affect is accompanied by a slight rise in dopamine levels in the brain, the kind of slight elevation that occurs while experiencing everyday life. They acknowledge that it remains necessary to study this in addition to the fundamental reasons that make people happy. Their theory, however, could have implications for the ageing population, whose dopamine levels “decrease by 7% or 8% during each decade of life” (Ashby et al., 1999, p. 543), or for others who have decreased dopamine levels because of disease (e.g. Parkinson’s disease) or as a side effect of drugs that reduce dopamine levels.

### **Aesthetic Experiences as a Part of Affective Domain**

As one moves into higher levels of the affective domain, the valuing category (level III of the affective domain) relates to appreciation of aesthetic experiences such as good art, music, or literature. The appreciation, valuing, and subsequent enjoyment of classroom involvement also may lead to aesthetic experiences. The aesthetic experience results in concentrated and heightened consciousness. There is an emotional aspect too, involving sensations and feelings as well as condensed symbolism and expression (Fiore, Kimle, & Moreno, 1996a, p. 31).

DeLong et al. (2007) noted that the “sense of touch involves aesthetics” (2007, p. 35). They further stressed that designers need to be aware that different cultures may have different aesthetic preferences; for example, the results of their study indicated that respondents from the U.S. preferred objects with contrasting touch sensations. Suhor (1998/1999) encouraged educators to be mindful of the

settings in their classrooms and stressed that an aesthetic experience in a classroom, especially if the person is the creator, can elevate a person into a sensory, spiritual realm.

Sewing machines, patterns, tools such as cutting shears, measuring devices, pins, needles, and fabric are all used in apparel construction/sewing laboratory classes. The fabrics, or textiles, are the focus of this section. Textiles and the process of sewing may fit in several of the categories of an aesthetic experience. For example, Wright (2002) noticed the states of consciousness of members of her sewing group as awake and focused. Fiore et al. (1996a) discussed the “heightened and concentrated consciousness” and “stimulating mental events” (p. 31) that can characterize an aesthetic experience.

Fiore, Kimle, and Moreno (1996a, 1996b, 1996c) proposed that a precise definition of aesthetics was difficult because the word can refer to “a state of being” and/or “a quality of an object” (1996a, p. 30). Fiore et al. (1996a, 1996b, 1996c) explored aesthetic experiences in depth. They reviewed scholarly literature in several areas, sorting the focus of the literature into one of the following five categories: creator, creative process, object, appreciator, and appreciation process (1996a, p. 32). A student becomes a creator and engages in a creative process while working on projects for an apparel construction/sewing laboratory class. A student may appreciate or participate in an appreciation process while working with others. The fabric itself may be as much an object of an aesthetic experience as it is part of the creation or appreciative processes. The garments or items constructed

may be aesthetic objects; the positive hedonic value of the properties of the object can contribute to an aesthetic experience of the students.

Rehm (1998) argued that the aesthetic dimension of a person's life is "one of the most potent, yet one of the most overlooked, factors in creative and critical thinking of ordinary individuals and families (1998, p. 3) and that an aesthetic perspective could empower individuals (Rehm, 1993). Rehm (1998) presented a dynamic interrelationship of aesthetic perspectives—evoking an array of emotions as one notices particular details as diverse while also able to find a pleasing cohesive whole from the diversity. The need for diversity as an aesthetic quality was highlighted by Rehm (2000), who indicated that it "emphasizes the splendid mosaic of people, emotions, values, material things, sensory riches and ideas in both the physical and the social environment" (p. 157). Similarly, Kupfer (1983) described the aesthetic experience as a whole formed out of distinctive parts. We draw the whole into a community. When contemplating aesthetic classroom experiences, Kupfer suggested, "Discussion grows out of the participation of the students" (1983, p. 5). The teacher contributes a "love that initiates and sustains a quest" (1983, p. 17). This perspective calls into question a positivist point of view toward education, with the teacher as expert. In fact, Alexander (2003) suggested that to conceive of pedagogy "in aesthetic terms challenges the prevailing positivist epistemology on a deeper level because it questions the accepted distinctions between thinking and feeling" (2003, p. 2).

Innovation and creativity are part of an aesthetic dimension. This is a central aspect for both instructors and students to recognize. Kupfer (1983) expressed that



all parts of everyday life contained aesthetic values, if one is aware of them, and these values influence decision-making. Many people are aware of aesthetic values contained within fine art but not able to see the relations between experiences in everyday life that embody aesthetic values. Rehm (1998) indicated that empowering individuals to lead aesthetically rich lives takes thinking from an aesthetic perspective.

Clearly, an aesthetic classroom is rich below the surface. Peterat (1999) learned that “quilting and work with textiles had much to do with things other than the quilting itself and what was visible” (1999, p. 12), and admonished us to “attune ourselves to the invisible behind the visible” (1999, p. 13). Educators who embrace this may be inspiring their students to live aesthetically rich lives (Rehm, 1998; Suhor, 1998/1999) while encouraging them to be better decision makers at the same time (Kupfer, 1983).

### **Self-Efficacy**

Another purpose of this exploratory study was to measure the self-efficacy of students enrolled in apparel construction/sewing laboratory classes and explore the relationship between perceived self-efficacy and the affective domain. Affect is an integral component of self-efficacy. Bandura (1997) explained that if people feel as though they have control over events affecting their lives, their actions will be more effective because they have a stronger incentive to act as though they really have control. While people with low self-efficacy may avoid tasks that are difficult, those with high self-efficacy will see a difficult task as a challenge that can be mastered.

Individuals with high self-efficacy will set goals and maintain interest and commitment. An additional benefit is the reduction of stress.

Many scales have measured self-efficacy (e.g., Choi, Fuqua, & Griffin, 2001; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982; Stumpf, Brief, & Hartmann, 1987; Zimmerman et al., 1992). Some items used in the instrument created for this study were taken from these existing scales, and other items were modified from previous instruments to fit the type of class surveyed. Bandura (1997) related high levels of self-efficacy with the ability to be successful when faced with a challenging task. Bandura (1993) related the contributions of high levels of self-efficacy to cognitive, affective, and motivational processes in academic settings. Zimmerman et al. (1992) indicated that personal goal setting, influenced by perceived efficacy, in turn motivated academic achievement of high school students.

In 1982, Albert Bandura discussed the “interrelationship between knowledge and action” (1982, p. 122). Perceived self-efficacy is a link between the two. Simply because a person knows exactly what or how to do something does not mean that the person will be able to perform with competence. A person tends to act assuredly and perform with competence when personal judgment reveals capability. Individuals tend to avoid situations where capability is doubtful.

Tollefson (2000) applied self-efficacy theory as a cognitive theory of motivation in classroom experiences. She explained that individuals “avoid situations they believe exceed their capabilities,” yet they will tackle those situations that “they judge themselves capable of accomplishing successfully” (p. 67). Emmons (1986) found that among university students a positive affect predicted positive personal

strivings, while a negative affect was associated with ambivalence in personal strivings. A person's personal strivings and motivations to achieve them related to satisfaction in life. Emmons' findings fit with Bandura's self-efficacy theory in that "past fulfillment" and effort were strong predictors of a positive affect (1986, p. 1065).

Perceived self-efficacy is a person's belief in his/her capacity (Bandura, 1997). Those who act assuredly put in more effort and preparation into their action (Bandura, 1977; Bandura, 1982). While expectation is not the sole determinant of how people act, it is a major factor when people decide what types of activities to pursue (Bandura, 1977). Moreover, motivation is involved in self-efficacy and is credited with persistence, "goal setting and self-evaluative reactions" of a person's behavior (Bandura, 1977, p. 193).

### **Learning Theory**

Knowles et al. (2005) made a distinction between the concepts of education and learning. The concept of education puts emphasis on the educator to present knowledge to those who had undertaken the activity of education. Education is "designed to effect changes in the knowledge, skill and attitudes of individuals, groups or communities" (2005, p. 10). The concept of learning, in contrast, puts an emphasis on the learner and is the "process by which behavioral change, knowledge, skills and attitudes" are taken on (2005, p. 10). It is interesting to note that in either the education or learning situation, the knowledge, skill, and attitude align with Bloom's cognitive, psychomotor, and affective domains. An astute educator is aware of differences in education and learning and seeks to support the learner in the process of learning.

An abundance of learning theorists have contributed to the body of knowledge of learning theory, especially with regard to children. Malcolm Knowles, David Kolb, and Knud Illeris are contemporary theorists who have concentrated on the learning process of adults and whose work related to this study are discussed next. The topics of classroom climate, peer learning, and experiential learning are also included as a part of the discussion.

### **Adult Learning Theorists**

In the 1970s, Knowles wrote about andragogy, “the art and science of helping adults learn” (Knowles et al., 2005, p. 61) and set forth assumptions about how adults learn. The assumptions did not specifically address the affective domain or students’ perceived self-efficacy, but they continue to provide a useful perspective for educators. Knowles’ assumptions were: (a) adults need to be made aware of why they need to learn, so educators need to raise the consciousness of the learners; (b) adults are impacted by their previous experiences of educational systems and their other lifetime experiences, requiring educators to tap into those experiences as a springboard to promote learning; (c) adults are more focused upon their own personal situations and are more ready to learn when educators take this into account; and (d) adults orient their learning around life or problems instead of subjects, so educators need to make subjects relevant to the students by shifting from a subject orientation to a life orientation.

Malcolm Knowles (2005) suggested that flexible, comfortable, informal, and nonthreatening settings would provide ideal situations for adult learning. An environment that is conducive for learning is an important aspect of the process.

Peterat (1999) may have related this notion of environment to a responsive classroom. Other scholars (see Cohen, 2006; Cohen, McCabe, Michelli, & Pickeral, 2009; Cohen & Pickeral, 2007) refer to “quality and character of school life” as class climate or environment (Cohen et al., 2009, p. 182). Cohen and Pickeral (2007) associated a positive school climate as a predictor of academic achievement. A positive climate would include “norms, values, and expectations that support people feeling socially, emotionally and physically safe” (Cohen et al., 2009, p. 182). While Cohen and his colleagues were focused on K-12 classrooms, these same kinds of descriptors can lead to a feeling of community in other educational settings. McKinney, McKinney, Franiuk, & Schweitzer (2006) used the college classroom to explore the “sense of community” with the variables of connection, participation, safety, support, belonging, and empowerment. They found a significant positive relationship between the sense of community and student performance.

Knowles (2005) was influenced by Dewey’s (1938/1997) firm belief that experience should be a part of progressive education. Knowles advocated that educators incorporate the experiences of adult learners in educational settings. Dewey acknowledged that not all experiences were equal in terms of education. However, Dewey did see one part of an educator’s role as to provide experiences as well as environments conducive to learning. Dewey also influenced Kolb (1984) regarding the importance of experiential learning. While Dewey sought to integrate the experience into the process of learning Kolb saw the experience as the learning process (Kolb, 1984).

David Kolb provided “a working definition of learning” as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38). All environments, including those outside the academic community, provide opportunities for experiences and learning. According to Kolb, learning begins with an experience followed by a reflection upon the experience by the learner. Experiences, with reflection, help humans learn and re-learn the knowledge they construct, providing a way to adapt, make decisions, and solve problems. Knowledge is not “an independent entity to be acquired or transmitted” (Kolb, 1984, p. 38). Similarly, Cross (1998) described a traditional view of knowledge as an external reality with a learner tasked to discover and use it as a foundation (as occurs in a traditional classroom), versus a constructionist’s view of knowledge that the learner actively constructs to make sense of his/her environment (as occurs in a learning community). Both Kolb and Cross accepted that knowledge was constructed by the learner. Kolb focused on the process, not the outcome, and saw the construction of knowledge as a transformation of an individual experience in a social world while Cross discussed the construction of knowledge as an outcome of a social process that occurs in a learning community.

Cross (1998) defined a learning community as “groups of people engaged in intellectual interaction for the purpose of learning” (1998, p. 4). This definition is broad enough to include peer learning, whereby students of equal status “help each other to learn” and learn “themselves by doing so” (Topping, 2005, p. 631). The engagement among students may lead to a “trusting relationship” facilitating self-

disclosure or misconception and subsequent correction (Topping, 2005, p. 637). Affective components of trust and enthusiasm may play a part in this interaction.

Knud Illeris' adult learning theory was used as a foundation to understand the learning process that occurs in the apparel construction/sewing laboratory classroom. Illeris (2003a) proposed that a different perspective on education encourages educators to pay attention to the outcomes of learning. Illeris (2003a) was interested in how adults learn and do not learn and the concept of lifelong learning. He observed that lifelong learning is an important factor "in the global competition between nations and companies" (2003a, p. 396).

While Bloom and his associates (Krathwohl et al., 1964) built a hierarchy of steps of concepts with his taxonomies, Illeris (2003a, 2003b) built an inter-related model of ideas that were based upon the theories of many others. Illeris made a point to draw in previous learning theorists, because he credited his ideas to their theories. In essence, Illeris (2003a, 2002b) began with a model that looked like a capital letter "T." Illeris explained his model as two parts of learning that interact with one another. The first part of learning relates to a "specific individual with a personal life history" (Illeris, 2003b, p. 169) and is represented by the horizontal part of the T, with two equal dimensions (cognitive and emotional) on either side of the top of the T (Illeris, 2003a, p. 398). Knowledge within these two dimensions is acquired and elaborated upon through an "internal psychological process" (2003a, p. 398). The second part of his learning theory is symbolized by the vertical part of the T and represents "an external interaction process between the learner and his or her social, cultural or material environment" (2003a, p. 398). The social dimension

connects the individual with others in the environment and society. It recognizes “the learner as a human being in general, as a member of the present late modern globalised market and risk society” (2003b, p. 169). This model, particularly the internal acquisition aspect, is consistent with Bloom’s Taxonomy which, about six decade’s earlier, recognized that cognitive learning is only one of several components of learning, the others being affective and psychomotor.

The internal dimensions Illeris (2003a, 2003b) outlined, cognition and emotion, correspond with the cognitive and affective dimensions outlined by Krathwohl et al. (1964). Illeris defined emotional as “feelings and motivation” (2003a, p. 396) and attitudes (2003b, p. 170) which is consistent with the way the term “affective dimension” was used by Krathwohl et al. (1964). Both Illeris (2003a; 2003b) and Krathwohl et al. explored connections between the cognitive and affective dimensions. The third, or psychomotor, dimension that Krathwohl et al. (1964) explored may be more appropriate for younger learners and was not addressed by Illeris. Illeris (2003a) had a focus on adults, for whom the social dimension of communication and cooperation is fundamental.

For Illeris (2003a, 2003b), the acquisition of learning required prior learning in that new learning links to previous experiences. Knowles had not required prior learning, but acknowledged that prior learning and life experiences needed to be linked to new educational experiences of the adult learner (Knowles et al., 2005). The cognition aspect of Illeris’ model represents knowledge or skills that build up the understanding, meanings, and abilities of the learner, rendering the learner functional, or, in other words, the “personal functionality” that one uses to deal with



the challenges of life (2003a, p. 399). The emotion aspect of his model encompasses feelings and motivations and has an ultimate goal of securing mental balance and developing "personal sensibility" (2003a, p. 399).

Despite the inclusion of the equivalent of the affective domain in Illeris' (2003a, 2003b) adult learning theory, other areas such as creativity and the aesthetic dimensions regarding adult learning are not fully explored. Illeris (2003a) did mention creativity as a desirable outcome of learning. Kolb did consider a creative process as a part of his "holistic adaptive process" that also included decision making and problem solving (Kolb, 1984, p. 34). Regarding adult learning, Kucukaydin (2008, p. 88) noted that:

Even though the adult learning literature provides a wide variety of theories, concepts, and models to help us better understand adult learning, we still do not know much about many aspects of adult learning. One of those unknown aspects is [the] aesthetic dimension and its role in adult learning and development.

Understanding learning theory as an inclusive whole is similar to a discussion Csikszentmihalyi (1996) put forth regarding understanding creativity. Efforts to simplify sometimes overlook other important aspects. One may understand "that it is the spark that is responsible for the fire. The spark is necessary, but without air and tinder there would be no flame" (Csikszentmihalyi, 1996, p. 7).

Using Illeris' model of learning theory, a sewing laboratory provides for the internal acquisition of both cognitive and emotional (affective) domains through experience. Additionally, a sewing laboratory supplies an arena for interactions among individuals, which is the second, holistic component of Illeris' model. While experience is an important factor and a major focus in apparel construction/sewing

laboratory classes, attention to the affective domain (as well as the cognitive domain) may more completely describe the sewing learning lab. The context incorporates an emotional perspective through the creative and aesthetic nature of the sewing experience. The social aspect of a laboratory-type class is an important bridge between what occurs in and outside of an academic classroom.

### **Motivations to Enroll in Classes**

In 1987, Drohan, in a survey of Canadian adult education students, found that their motivation to enroll in a sewing class was creativity. Her data also supported that the students considered sewing a leisure pastime. Schofield-Tomschin (1999) brought attention to the fact that for many years people considered the product of sewing to be the motivation for sewing. It may be that the process of sewing is the motivation, and that process is considered a type of leisure.

### **Leisure**

Leisure contributes to a healthy lifestyle and can influence several aspects of an individual's life. Schofield-Tomschin (1999, p. 103) provided a list of areas of impact, which included physiological impact. Swartzberg (1995) contributed an example of this type of impact. In a study commissioned by the American Home Sewing and Craft Association, women who sew experienced "a significant drop in heart rate, blood pressure, and perspiration rate compared with women who participated in other leisure activities" (1995, p. 291). La Ferta (2004) quoted an interior design show room manager who enrolled in a sewing class to relieve stress, "Working with my hands is therapeutic," he said. "It's absolutely soothing" (2004, para. 5).

Heintzman and Mannell (2003) developed a model of how leisure can influence spiritual well-being. Spiritual well-being is part of the holistic view of health because it helps mitigate stress as a coping mechanism (Heintzman & Mannell, 2003). Schulz and Watkins (2007) were able to quantify, through their leisure meanings inventory, a spiritual component of leisure that was a part of achieving fulfillment.

### **Csikszentmihalyi's Flow Theory**

Csikszentmihalyi (1993) noted that artists, when faced with a challenging task, exhibited total involvement in their work. They went into a different state of consciousness during the process of their creative endeavors. The feelings did not happen during leisure, but occurred when the artists pushed their mental and physical limits while challenged by an activity. Csikszentmihalyi called the experience, "flow" because people expressed a feeling of being "carried away by a current." He (1993, p. xiii) continued:

It turns out that when challenges are high and personal skills are used to the utmost, we experience this rare state of consciousness. The first symptom of flow is a narrowing of attention on a clearly defined goal. We feel involved, concentrated, absorbed. We know what must be done, and we get immediate feedback as to how well we are doing.

It is reasonable to think that some students in beginning apparel construction/sewing laboratory classes may exhibit feelings of being absorbed in their work. In 1975 Csikszentmihalyi wrote about a "flow pattern in everyday life" (1975, p. 140) or "microflow activities" in which everyday occurrences were related to what Dewey called completed experiences. In this study he specifically noted sewing as in the creative category (1975, p. 146). Csikszentmihalyi (1990) also described amateurs

who kept their goal in sight and experienced the joy of flow, increasing their quality of life. Additionally, experiences may add meaning to a person's life. "An experience is *meaningful* [emphasis original] when it is related positively to a person's goals. Life has meaning when we have a purpose that justifies our strivings, and when experience is ordered" (Csikszentmihalyi, 1990, p. 244).

### **Creativity**

Creativity is considered an essential skill for the 21<sup>st</sup> century that relates to one's attitude and confidence (Azzam & Robinson, 2009). Csikszentmihalyi (1996, p. 1) indicated that "creativity is a central source of meaning in our lives" in that when people are engaged in creative endeavors they feel that they are living life more fully. Personal satisfaction and creativity tend to be primary motivations for home sewing (Drohan, 1987; Schofield-Tomschin, 1999). To capitalize upon this, pattern companies emphasized individuality over economy when they advertised (Schofield-Tomschin, 1999). People can use sewing skills not only to make clothing but also other items for the household. Cox (2005) related how a handmade quilt fashioned from worn clothing was an example of creativity and resourcefulness. Handmade objects are unique and can reflect personal creativity. Johnson and Wilson (2005) found that female handcrafters found meaning in the uniqueness of their "one-of-a-kind objects," which was "an appealing aspect of their work" (2005, p. 123). Textiles, as well as the process of sewing, are frequently linked to creativity (Chaker, 2006; Loker, 1987; Nelson, LaBat, & Williams, 2005; Schofield-Tomschin, 1999). People who are passionate about sewing enjoy the process (Donovan, 2000; Yin & Wiens, 2003). Csikszentmihalyi (1996) observed that without passion people lose interest in

difficult tasks and that “most creative persons are very *passionate* [emphasis original] about their work” (p. 72).

The American Sewing Guild ([www.asg.org](http://www.asg.org)) is a 20,000-member non-profit organization describing itself as “dedicated to people who believe sewing is a rewarding and creative activity.” In response to the loss of sewing classes in educational institutions in the mid-1970s, the guild idea came to fruition as a way to “keep the interest in and tradition of home sewing alive and well as a valued part of American culture” (American Sewing Guild, 2010). With 135 chapters across the United States, it appears to be a successful idea. The Hobby Industry Association (n.d. as cited in Monson, 2005, p. 5) listed apparel/fashion sewing as number three in the top ten list of America’s most popular pastimes.

**Therapeutic Nature of Creativity.** Creative arts are often seen as therapeutic. La Ferté (2004), Monson (2005), and Werhan et al. (2004) all relate occurrences of using a creative art, such as sewing, as a form of stress release and an alternate form of psychotherapy. Schofield-Tomschin (1999) indicated that home sewing could be therapeutic for people who have arthritis (1999, p. 103). The therapeutic nature of sewing is not limited to those who are doing the sewing. Coffman (2004) found that being the recipient of something hand sewn, such as fleecy muffs or stress balls, can comfort or soothe a person. She wrote about a community-based program called Simple Gifts, developed to address “the needs of persons with dementia, their families, and caregivers” (2004, p. 58). The hand-made items reduced the anxiety, agitation, and behavior problems of Alzheimer’s patients.

## **Responsive Curriculum**

Peterat (1999) investigated textiles and clothing curriculum, finding that responsive teachers contributed to meaningful classroom experiences for their students. Teachers who are sensitive to students' needs working with a creative and aesthetic medium are uniquely positioned to have an effect on the affect of all those in the classroom. Jennifer Orsini, an instructor and former chair of the fashion department at Pasadena City College, explained that the instructors saw increased quality of work when students chose their own fabrics (other than muslin) to create their required items and samples for class (personal communication, May 26, 2009).

## **Significance and Meaning of Textiles**

Peterat (1999) echoed Schneider and Weiner (1989) who maintained that textiles, the medium used in apparel construction/sewing laboratories, are a pervasive part of life. Textiles influence people on multiple levels. On a personal level they encase the body, yet they also are part of a public sphere in galleries or museums or waving as banners (Bachmann & Scheuling, 2002). DeLong et al. (2007) found that memories could be triggered by the sense of touch; both Chinese and U.S. respondents had positive memories of touching clothing items. The comprehension of textiles, they found, was a "two-way process: what we value is a result of what we perceive; what we learn to perceive is what we value" (2007, p. 36). Textiles are so much a part of each person's daily life that they may have moved into the marginal realm for scholars, yet descriptions invoking fabric or textiles are numerous. "Indeed, cloth metaphors echo from many parts of the world,

today and in the past. Social scientists and laypersons regularly describe society as fabric, woven or knit together” (Schneider & Weiner, 1989, p. 2).

Similarly, Csikszentmihalyi and Rochberg-Halton (1981) indicated that textiles have significance and meaning. In their following explanation, they touch upon the affective nature of the concept:

When a thing “means something” to someone, it is interpreted in the context of past experiences, either consciously, or unconsciously in the form of habit. The emotion that things evoke is also an interpretation or inference, a sign or symbol of one’s attitude. (1981, p. 21)

They looked at the interaction with objects related to the development of the self (1981, p. 105) and maintained that people chose the type of objects they wish to interact with, sometimes along cultural and gender lines. Items from one’s household communicate a sense of “home” (1981, p. 184), so families were queried about their feelings about household objects. For females, textiles were among the most frequently named objects; the greater frequency of females compared to males mentioning textile household objects was highly significant (1981, p. 106).

Csikszentmihalyi and Rochberg-Halton saw the significance as supporting the “expressive female roles” that are expected by society (1981, p. 106). Gender roles had permeated the home which is “the most intimate symbolic environment people create to give meaning to their lives” (1981, p. 106).

Different phases of the life cycle were part of the study as well. Within three generations, clothes were the “special objects” among the top 15 items mentioned by children. Grandparents mentioned weavings (Csikszentmihalyi & Rochberg-Halton, 1981, p. 95).

Just as noteworthy as objects that carry meaning is the memory that items have for people. Textile items can evoke memories, as Cox (2005) illustrated in her article about Carol Kelly, the designer for Carol's Creations, who recounted the relationship between her sewing and the memory of her grandmother, Martha:

Carol recalls stories of how Martha would make little-girl dresses for Carol's mother...out of the sacks that carried flour and other dried goods. In Martha's later years, she would cut her great-grandchildren's old clothes into scraps and transform them into quilts with backing. In an unspoken rite of passage, each great-grandchild received one of these brightly patterned comforters before the 91 year-old passed away in 1990. These quilts are a reminder of the southern matriarch's resourcefulness and creativity. (Cox, 2005, para. 15-16)

Cox's (2005) article exemplifies the finding by Csikszentmihalyi and Rochberg-Halton (1981) that females were more likely than males to link their reasons for selecting certain objects to family significance or memories.

Similar to an aesthetic experience, objects may impose "certain qualities on the viewer that create new insights" (Csikszentmihalyi & Rochberg-Halton, 1981, p. 45). The individual "can allow the intrinsic qualities of an object or situation to be fully realized in the interpretation" (1981, p. 195). Littrell (1990) explained that tourists derived aesthetic pleasure from textile items that provided rich memories, made the owners feel unique, and symbolized the "authentic life" (1990, p. 231) they experienced in a foreign country.

As noted, textiles have meaning to individuals and to women especially as a link to memories of other people or places (Csikszentmihalyi & Rochberg-Halton, 1981). Schofield-Tomschin and Littrell (2001) suggested that textile objects had two specific areas of meaning: "significance of the textile objects themselves and



meaning incorporated in the making of the textile objects” (2001, p. 42). Schofield-Tomschin and Littrell also brought up the conveyance of values by textile items, as quilt makers today are aware of the “traditional ideology” (2001, p. 42) incorporated into their quilts that resonates with others who view the quilt.

Clover and Stalker (2008), as feminist educators, found that their interest in textiles was “stirred in particular by the number of women who used, albeit in different ways, these media as tools of social-justice learning and activism” (2008, p. 81). Their research investigated women in Canada and Aotearoa, New Zealand, who used fabric artwork to empower themselves. The women experienced growth or development in autonomy, trust in their abilities and skills as artists, increases in their decision-making capacities, and deeper understandings of society. Sarah Quinton, in the forward for the book, *Material Matters: The Art and Culture of Contemporary Textiles*, wrote that:

textiles signify an engagement with their environments: hearth and home; the body; health and well-being. The global presence of textiles (in pre- and post-industrial forms), and the adroit capacity they have to embody local and personal meaning, lend the subject great currency....Is it this very familiarity and accessibility (even though they are at times rendered invisible by their own ubiquitous nature) that reward the artist and the scholar who recognize the authenticity of daily life? (2002, pp. 13-14)

### **Importance of Comfort in a Classroom**

Dallimore, Hertenstein, and Platt (2008) reported that “overall student learning was positively and significantly related to comfort with one's own participation in class discussion” (2008, p. 19). Additionally, Dallimore et al. (2008) found positive and significant relationships between student comfort (in class discussions) and “perceived value of other students' comments” in a university setting. In other school

environments, the terms used may be different. Cohen et al., (2009) provided a variety of terms that are used for school climate; among them were tone, atmosphere and feelings. However, their agreed upon description was a climate that “includes norms, values, and expectations that support people feeling socially, emotionally, and physically safe” (2009, p. 182).

The social climate in a classroom holds the possibility of creating a community of support. Ford and Procidano (1990) investigated perceived social support and correlated it to the self-actualization of undergraduate students. As they had predicted, self-actualization related positively to perceived social support, while depression and life stress correlated inversely. Schofield-Tomschin (1997) studied older women who participated in textile handcraft guilds. She described that not only do social interactions provide opportunities for sharing common values and interests, but that “sustained interactions between these individuals results in solidarity, or a common conception of identity supported by a shared ideology” (1997, p. 2).

### **Importance of Community in a Classroom**

Osterman (2000) related two different uses for the term “community.” One meaning is in reference to a geographic location and the other to a character or quality of human relationships. King (1995) did not see an either/or situation, but identified three elements that would make community possible: geographic area, social interaction, and common ties. Educational classes contain the three elements mentioned by King. These three elements might explain the sense of community La Ferta (2004) found in a basic sewing class in Manhattan, where one of the members

of the class expressed, "You're sitting around with other people and telling each other your stories, it feels good" (para. 4).

Wright (2005) explained that humans use a variety of mediums to express themselves. Verbalization during activities reflects the complex nature of the experience. Interest may entice a person to join an activity group; however, continuing with a group revolves around personal growth, including building a community, problem-solving and increased self-esteem. Wright (2002) observed of her sewing group:

Then, as I sat there in the circle sewing along with the rest of the members, it was as if I was entering some parallel reality known only to those present. Unlike every other time I had shared the company of these individuals—in other groups or around the day treatment center—they seemed to be focused, awake, and actually enjoying themselves....They started talking...not just chitchat...it all came out. (2002, p. 106)

Wright (2005) saw definite beginnings, middles, and ends of groups. She emphasized the need for a safe environment and low skill demands, especially at the beginning, so as not to create anxiety in those who may not want to take risks at the start of the activity. People having a sense of place in the group and achieving higher skill levels characterize the middle stage of groups. By the ending stage of groups, there is more of a balance between personal growth and the purpose of the activity, in fact, if time is short, the completion of the activity takes precedence.

Tinto (1997) considered the university classroom to be the center of the educational experience. His study of an urban commuter community college supported the link between learning communities and engagement in the classroom. Classes, labs, and studios linked academic and social systems to affect the

students' quality of effort and learning with an educational outcome of increased persistence. He described how "social communities emerge out of academic activities that take place within the more limited academic sphere of the classroom" (p. 620). Deeper and richer learning was a result, as one student expressed the feelings of many, in that "we not only learn more, we learn better" (Tinto, 1997, p. 615).

Bogue (2002) stressed that the feeling of community was important for both a college campus in general and also a college classroom. Bogue described that a community becomes a source for creativity, releases a synergy whereby the whole is greater than the sum of its parts, and that the need of community is both a "primal yearning" and a "practical necessity" in everyone's life (2002, p. 3). Caring is integral in Bogue's description of community; he likens community to the soul of the university. McKinney et al. (2006) likewise found that a sense of community was created by the faculty making a few adjustments in classroom, such as encouraging students to participate and get to know each other. All of these components link with the affective domain.

Laboratory situations such as apparel construction/sewing classes provide an area, common ties, and social interaction which provide a sense of community. The class climate can enhance the sense of community. As Bogue (2002, p. 8) noted, "colleges and universities exist for purposes beyond developing knowledge and skill in our students. They are also sanctuaries of our personal and civic values, incubators of intellect *and* integrity." This study endeavours to measure those aspects beyond the knowledge and skills that are part of the cognitive domain. The

social aspect of a laboratory course can contribute to the learning in both the cognitive and affective domains (Illeris, 2003a, 2003b).

### **Research Questions**

This research focused on students enrolled in beginning apparel construction/ sewing laboratory classes in community colleges in southern California. There were two primary purposes for this exploratory study. The first was the creation of a scale that would measure the multiple levels of the affective domain of the beginning students enrolled in those classes. Krathwohl et al. (1964) had outlined the various levels of the affective domain and formed the basis for the development of the scales. Additionally, the students' overall attitudes were assessed along with their overall feelings and satisfaction with their class. A self-reflection as to the quality of the students' work was also measured because no personal information or student grades were collected.

The second purpose was the development of a scale that would measure the levels of perceived self-efficacy of these students. Two kinds of perceived self-efficacy were measured, general and specific for sewing classes. Bandura (1994, 1997) was the primary source for the concept of self-efficacy, but the scales were developed from other scholars who grounded their work in Bandura's work. There are other variables that influence the affective domain and perceived self-efficacy, among them are how comfortable students feel in class and their sense of community. These address the social nature of the class. The social aspect is important because this study was framed by Illeris' (2003a, 2003b) adult learning theory, which looks at the social interaction as a source of knowledge that interacts

with the acquisition of knowledge that is based upon personal integration of both the cognitive and affective domains. Illeris' adult learning theory is unique in overtly relating both the cognitive and affective domains of the adult learner. The following three questions guided this study:

1. What are the levels of affective domain attained by beginning students enrolled in apparel construction/sewing laboratory classes?
2. What are the levels of perceived self-efficacy attained by beginning students enrolled in apparel construction/sewing laboratory classes?
  - 2.1 Do affective levels have a relationship to the students' perceived self-efficacy?
3. What are the relationships among
  - 3.1 students' perceived self-efficacy,
  - 3.2 how comfortable students feel participating in class,
  - 3.3 students' sense of community,
  - 3.4 students' overall feelings and general satisfaction with the class,
  - 3.5 quality of student work done for the class, and
  - 3.6 students' attitude toward the class?

### **Contributions to the Body of Knowledge in FCS**

This research will contribute to the field of family and consumer sciences by providing a more complete perspective of beginning apparel construction/sewing laboratory classes, including the impact on and value for the individuals enrolled. This exploratory research is an initial attempt to create a scale to measure the affective domain, self-efficacy, level of comfort, and sense of community of students

involved in apparel construction/sewing laboratory classes. The results of this study should help educators better understand the dynamics of this type of course and provide opportunities to engage students in learning endeavors. A comfortable atmosphere (Knowles, et al., 2005) for students may help educators build a sense of community (Bogue, 2002; McKinney et al., 2006) and find that enhanced cognitive, as well as additional affective and self-efficacy outcomes are the result. Moreover, these classes deal with a medium that can contribute meaning and enjoyment (Csikszentmihalyi, 1975; 1990) to students' lives, through memories, aesthetic, and hedonic experiences.

### **CHAPTER 3. METHOD**

This chapter begins by describing the method of data collection, including the sampling method and collection of the data. The next section is the instrument design; it is discussed in the same order as it appears in the instrument, which is included in Appendix D. The order of each section in the final instrument was determined by the most efficient use of space as well as flow of the instrument, consequently this was not necessarily the order of the research questions.

#### **Method of Data Collection**

The research protocol was approved by the Institutional Review Boards at Iowa State University and from California State University Northridge, where the researcher is a member of the faculty (see Appendix A). Prior to administration of the survey, it was reviewed by the members of the doctoral committee to determine face validity. Reliability of this instrument was also examined; coefficient *alpha* was used to test for internal consistency of variables (Creswell, 2007).

A self-reporting survey instrument was administered to community college students enrolled in sewing laboratory/apparel construction classes. The instrument had undergone a peer-review from colleagues, from both community college and university levels. Several items in the instrument were patterned after or modified from previous studies, and self-efficacy items were combined from more than one source, some being modified to specifically mention or relate to sewing.

#### **Method of Sampling**

Participants were selected using a non-probability purposive sample of intact groups of students who were currently enrolled in a beginning apparel construction/



sewing laboratory class offered through a California community college during the spring semester of 2009. Beginning with an alphabetical list of the California community colleges (California Community Colleges Chancellor's Office, 2010a) the offerings of each college were reviewed to see if there was a program in family and consumer sciences or other related program. To ensure that classes were as equivalent as possible, different apparel construction/sewing laboratory classes were chosen primarily based upon whether or not their class was listed with a California Articulation number (CAN) and if the class transferred to the California State University system under the ASSIST website (*ASSIST*, n.d.). The ASSIST website is the newest and most comprehensive database that coordinates all California public educational institutions. Each community college that participated in the study was on a semester system.

The instructors of apparel construction/sewing laboratory classes which met the established criteria were contacted via telephone and/or email. Once a positive response regarding participation was received by the researcher, an email was sent to the dean of the area or the dean of the Institutional Review Board (IRB) of the institution, containing the IRB letter from Iowa State University, to obtain formal permission to visit the school. All responses from the deans were forwarded via email to the IRB at Iowa State University.

A convenient time for the researcher to visit the classroom was determined with the instructor. The majority of the times selected was either the final class or very close to the end of the term. More students were in class when the time corresponded to the final day of class. Thirteen classes were surveyed at seven

different community colleges in Los Angeles and Ventura Counties. Five of the 13 classes visited were evening classes; one class was in the late afternoon to early evening, and the remaining seven classes were morning classes. Two of the classes were held on Saturday from morning to afternoon. A total of 255 students were enrolled in the beginning apparel construction/sewing laboratory classes surveyed. One hundred fifty-five surveys were collected and useable, yielding a 61% response rate.

### **Collection of Data**

The instructor of the class introduced the researcher and allowed the researcher to give a brief introduction about the survey, assuring the students that it was a voluntary survey and confidentiality would be maintained. The researcher also informed the class that a student must be at least 18 years old to participate. A few of the instructors announced that students who participated could earn extra credit points, which increased student interest.

After the introduction, participants were individually asked by the researcher if they were at least 18 years old and if they would like to participate by taking a short survey about their class. If there was a positive response from the student, an informed consent letter (see Appendix C) was given out along with the survey. With permission of the instructor, all students were offered Smartees® candies, even if they declined the invitation to fill out the survey. Surveys were administered and completed during class time. It took approximately 10-15 minutes for a student to complete the survey.

The first two classes surveyed were classes comprised of many levels of students (beginning, intermediate, advanced, and specialized, such as tailoring). It is common in some California schools to combine several levels of instruction during one class time if not enough student demand warrants separate classes. In the case of combined classes, each one of the areas had a unique administrative class section number, making it easier to determine total enrollment. Other schools offered beginning classes with an “AB” designation, meaning that the class could be taken the first time under the A suffix and repeated under the B suffix, making these classes multilevel as well. Each of the AB classes surveyed had only one administrative class section number. For these classes, all students who were at least 18 years old and wished to participate were given the survey. However, only data from those students who fit the criteria for beginning students were analyzed for this report. If, in an AB class, a student self-reported as an intermediate student with prior class experience, the student was not included in this study. Beginning students were first defined as those enrolled in a beginning apparel construction/sewing laboratory. For students enrolled in a multi-level class, if no indication of class level was given, beginning status was determined by the student having no prior formal classes in sewing instruction.

Because sewing laboratory classes in middle or high school programs are not as common as they had been in the past, some students lack a very basic knowledge of sewing which is generally assumed in a beginning apparel construction/sewing laboratory class at a community college. A few community colleges offered a non-transfer credit “basic sewing” class which did confuse some

students who, having taken that class, assumed themselves at an intermediate rather than beginning level. Those students were included in this report because they were enrolled in a beginning level class that was considered comparable to an introductory class at the university.

### **Instrument Design**

The four-page instrument had eight sections (see Appendix D). The purpose of the first section of the instrument was to collect general demographic information. The motivation section was the second section which asked about various types of motivations that led the student to enroll in a beginning apparel construction/sewing laboratory class. The third section focused on comfort in class participation and asked the student about level of comfort he/she felt in an assortment of class situations. A five-point Likert-type scale (*very uncomfortable* to *very comfortable*) was used for this section. The fourth section was the largest and main segment of the instrument; a five-point Likert-type scale (*strongly disagree* to *strongly agree*) was used for the 70 items that related to affective domain levels, self-efficacy, sense of community, and overall feelings and general satisfaction with the class. Some of the items in this section were reverse coded in order to reduce response sets. A fifth section about overall feelings and general satisfaction with the class followed at the bottom of the third page, using the same scale for responses. A few of the items that were analyzed with and belonged with this for this section had been included in the main part of the instrument because of better fit with the response scale. The last page contained the last two formal sections of the instrument, which asked the student to rate the quality of his or her own work and reflect upon his or her current

attitude about the class. Each of these sections included a specific space for comments to elaborate upon their ratings. The final section of the instrument was a space allotted for general comments with a notation that any comments would be appreciated.

### **Demographic Information**

Demographic data collected included age, gender, and ethnic background. Also in this section was a space for the student to indicate the number of academic units completed and questions regarding enrollment in any prior sewing classes, any prior informal sewing experience, and level of the class in which the student was currently enrolled. No other personal information was collected.

### **Motivation**

This section of the instrument sought to determine the student's motivation by asking, "How much did the following influence your decision to enroll in an apparel construction/sewing lab?" Each item was followed with a five-point scale, 1 (*not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*greatly*), and 5 (*absolutely*). Overall, these items were patterned from previous Master's degree studies investigating motives for sewing.

Items designed to measure motivation were:

1. It is a required course for my program/major.
2. I wanted to learn how to sew.
3. I wanted to learn how to use my sewing machine.
4. I enjoy sewing.
5. I wanted to be able to create original items for myself, others, or my home.
6. Sewing is a form of self-expression or a creative outlet for me.
7. Sewing gives me a sense of accomplishment or achievement.
8. I feel I get better quality if I sew, rather than buy items.
9. I wanted to be able to alter my clothing to fit better.

- 10. I wanted to repair or maintain clothing or household items.
- 11. I can save money by sewing items instead of buying them.

The first item, “it is a required course for my program/major” was created for this survey, as it was appropriate for the population of community college students. Items 2 and 3 “I wanted to learn how to sew” and “I wanted to learn how to use my sewing machine” were used in Lutz’s 1957 study. Items 4 and 5 “I enjoy sewing” and “I wanted to be able to create original items for myself, others, or my home,” were similar to items used by Lutz (1957), Ostapovitch (1961), and Drohan (1987). Drohan’s (1987) study and Schofield-Tomschin’s 1994 study (cited in Schofield-Tomschin, 1999) provided sources for items 6 and 7 “sewing is a form of self-expression or a creative outlet for me” and “sewing gives me a sense of accomplishment or achievement.” Drohan’s (1987) study was the sole source for items 8 and 10 “I feel I get better quality if I sew, rather than buy items,” and “I wanted to repair or maintain clothing or household items.” Items 9 and 11 “I wanted to be able to alter my clothing to fit better” and “I can save money by sewing items instead of buying them,” were similar to items used by Lutz (1957), Ostapovitch (1961), and Drohan (1987). Two blank lines were provided for participants to fill-in other influential reason(s) that motivated the student to enroll in the class.

### **Comfort in Class Participation**

This section of the instrument addressed a part of the third research question, which asked if there was any relationship among students' perceived self-efficacy, how comfortable students feel participating in class, students' sense of community, students' overall feelings and general satisfaction with the class, quality of student

work done for the class, and students' attitude toward the class. Items in this part of the instrument asked respondents about their comfort level of participating in class. The primary question in this section began, "While you are in an apparel construction/sewing lab, how comfortable do you feel..." followed by the rest of the question and a five-point scale ranging from 1 *very uncomfortable*, 2 *uncomfortable*, 3 *neutral*, 4 *comfortable*, to 5 *very comfortable*.

Items designed to measure how comfortable the student felt were:

1. Participating in class discussions?
2. Asking the instructor questions?
3. Asking a classmate questions?
4. Volunteering information?
5. Making mistakes and fixing them?
6. Trying something new?
7. Helping a classmate solve a sewing problem?
8. Accepting help from a classmate to solve a sewing problem?
9. Talking to classmates during lab?
10. Showing or sharing your work with a classmate?

The primary construct for this section is sharing and learning from peers.

Illeris (2003a; 2003b) stressed the social aspect of a class in adult learning. In a school climate where students feel comfortable, Dallimore et al. (2008) suggested that students were more likely to participate in class discussions, a behavior that was positively related to overall student learning.

These items were developed from a variety of sources. Item 1 "participating in class discussions," was inspired by Krathwohl et al. (1964) as part of the first or receiving level of the affective domain. At this level, a student is an active participant, so participating in class discussions is an activity that exemplified this level. Item 1 does overlap with an item from studies in self-efficacy. Zimmerman et al. (1992, p. 668), and Choi et al. (2001) both looked at self-efficacy in self-regulated learning,

Zimmerman et al. (1992) at the high school level and Choi et al. (2001) at the college level. Zimmerman et al. (1992) explained that “self-regulated learners are not only distinguished by their proactive orientation and performance but also their self-motivative capabilities” (1992, p. 664) with regard to an academic setting. In both of those studies, the item followed the statement “How well can you:” which had an underlying concept of ability. In the present study, each statement followed “how comfortable do you feel” so several items remained in the comfort in class participation section rather than the self-efficacy section of the study.

Items 2 and 3 “asking the instructor questions” and “asking a classmate questions,” were also inspired by Krathwohl et al. (1964) as a part of the first, or receiving level of the affective domain, which pertains to students' awareness in class and asking questions. These items also overlap with the self-efficacy study by Choi et al. (2001) however; these items remained in the comfort section based upon the same reasoning discussed above.

Items 4 “volunteering information,” 5 “making mistakes and fixing them,” 6 “trying something new,” and 9 “talking to classmates during lab,” were inspired by the responding level of the affective domain (Krathwohl et al., 1964). This is the second level in the hierarchy of the affective domain. Within this level students have gone beyond simple awareness and respond to what is going on in the classroom. They practice and respond to the educational situation. The wording of item 4 was also influenced by a study done by Unger and Kernan (1983) that considered the meaning of leisure. They supported the notion that a perceived freedom to pursue a task could be enjoyable. Item 4 is similar in concept in that feeling comfortable to



volunteer information shows an interest in the activity (in this case, the class) and could lead to an enjoyable experience.

Items 7 “helping a classmate solve a sewing problem,” 8 “accepting help from a classmate to solve a sewing problem,” and 10 “showing or sharing your work with a classmate,” were inspired by the valuing level of the affective domain (Krathwohl et al., 1964). At the third level of the affective domain the students begin to place value upon their educational experiences in the class. This level is identified by students solving problems and sharing information. Additionally, item 8 related to enlisting social resources as a specific type of self-efficacy (Choi et al., 2001) but remained a part of the comfort section because it was specific to the topic of comfort in class participation.

### **Affective Domain Levels, Self-Efficacy, Community, and Overall Feelings/ General Satisfaction With the Class**

The main section of the instrument included a block of 70 items developed to measure two major areas: the different levels of the affective domain and self-efficacy. Bloom’s Taxonomy for the affective domain provided the theoretical background for this section (Krathwohl et al., 1964). This was supported also by Illeris’ adult learning theory, whereby adults learn best when both cognition and emotions work together (2003a, 2003b). Additionally included in this section were items related to community and overall feelings about and general satisfaction with the class because the structure of these particular items was a better fit in this area. Each item in this section was followed by a five-point Likert-type response scale of

*strongly disagree* to *strongly agree*. This section specifically addressed the first two research questions, which were:

1. What are the levels of affective domain attained by beginning students enrolled in apparel construction/sewing laboratory classes?
2. What are the levels of perceived self-efficacy attained by beginning students enrolled in apparel construction/sewing laboratory classes?
  - 2.1 Do affective levels have a relationship to the students' perceived self-efficacy?

In this section, all levels of the affective domain will be addressed first, followed by self-efficacy, feelings of community and last, overall feelings and general satisfaction with the class. The items that applied to the sense of community and the few items that applied to the overall feelings and general satisfaction with the class address the third research question, which was:

3. What are the relationships among
  - 3.1 students' perceived self-efficacy,
  - 3.2 how comfortable students feel participating in class,
  - 3.3 students' sense of community,
  - 3.4 students' overall feelings and general satisfaction with the class,
  - 3.5 quality of student work done for the class, and
  - 3.6 students' attitude toward the class?

## **Affective Domain**

The different dimensions of the affective domain based upon Krathwohl et al. (1964) are receiving, responding, valuing, organization, and characterization. These levels were organized into a hierarchical order.

**Receiving (Level I).** Krathwohl et al. (1964) considered the receiving level to be the first, or lowest, level of the hierarchy of the affective domain. It is sometimes referred to as attending. Students at this level show awareness of the importance of learning and attend to classroom activities by asking questions and following directions. The statements in this section were developed for this survey, inspired by Krathwohl et al. (1964). Related items included item 12 “I attend class regularly” and item 69 “to complete my sewing projects I follow directions.”

Asking questions was an integral aspect of this affective level and there were items directed toward asking questions. However, items about asking questions were placed in the section that asked how comfortable students felt participating in the class. The original items that were a part of the receiving scale, “I feel comfortable asking the instructor questions” and “I feel comfortable asking classmates questions” were transformed to “how comfortable do you feel asking the instructor questions” and “how comfortable do you feel asking a classmate questions” because of a better fit with the response scale (*very uncomfortable* to *very comfortable*). Consequently, only two items remained (items 12 and 69) for the receiving (level I) category. A factor analysis did not show a relationship between these two items.

**Responding (Level II).** Krathwohl et al. (1964) considered responding to be the second level of the affective domain. At this level the student actively participates in class by volunteering information, assisting others, and generally shows interest in class.

Items designed to measure the responding level of the affective domain were:

1. I look forward to attending class.
4. I don't mind missing class. (RC)
8. I am interested in class.
50. Sewing is the right activity for me to be doing this term.
53. This class increased my interest in the subject of sewing.

Item 4, marked with (RC) was reverse coded.

Krathwohl et al. (1964) were the primary inspiration for the development of items 1 "I look forward to attending class," 4 "I don't mind missing class," and 8 "I am interested in class." These were written to address the second, responding level of the affective domain. Item 50 "sewing is the right activity for me to be doing this term" was very similar to a statement used in a study that demonstrated a link between leisure involvement and flow published by Havitz and Mannell in 2005. Item 53 "this class increased my interest in the subject of sewing" was modified from the researcher's 1990 student course evaluation survey from Woodbury University.

**Valuing (Level III).** This level is characterized by positive attitudes leading to a change in behavior through appreciating the role of sewing in everyday life and enjoyment and sharing of sewing with others. Additionally, students could demonstrate how to solve problems and have the ability to distinguish levels of sewing skills (Krathwohl et al., 1964).

Items designed to measure the valuing level of the affective domain were:

6. I enjoy spending time on sewing projects.

- 14. I like the idea that I could give someone something I made.
- 15. I would rather purchase than make an item to give as a gift to someone.  
(RC)
- 16. I can tell the difference between good and poor sewing skills.
- 19. It is foolish to make something that a person could buy. (RC)
- 36. The feel of certain fabrics (like velvet or satin) is soothing to me.
- 37. I can make a product or an item that is soothing to me.
- 40. I enjoy shopping for fabric.
- 59. I admire people who sew well.
- 63. Sewing is a valuable skill.

Items 15 and 19, marked with RC, were reverse coded.

Almost all of the items in this section were developed for this instrument, with the intent of capturing the positive attitudes that lead to appreciating sewing. All of the studies that supported the creation of these items used the word “enjoy.” The valuing level overlaps with hedonic and intrinsic motivations. It also overlaps with flow because intrinsic motivations such as enjoyment were a part of the way Havitz and Mannell (2005) conceptually measured flow in a study of leisure involvement. Enjoyment was an integral part of hedonic motivations for people to shop (Arnold & Reynolds, 2003). Item 40 “I enjoy shopping for fabric” was adapted for this study from Arnold and Reynolds (2003).

Enjoyment has been explored through intrinsic motivation in leisure by Esteve, San Martin, and Lopez (1999) and Unger and Kernan (1983). Intrinsic motivation springs from inner feelings of satisfaction and fulfillment. Watkins and Bond (2007) looked at enjoyment in leisure as achieving fulfillment. Achieving fulfillment was described as a feeling of happiness or contentment.

**Organization (Level IV).** At this level of the affective domain, internalization of values would lead students toward developing a philosophy of life by including

interest in sewing as a part of their lives, associating sewing with memories of other people, times, events, and completing sewing projects for themselves or others.

Items designed to measure the organization level of the affective domain were:

- 7. Sewing allows me to escape the pressures of my daily routine.
- 9. Creating something out of fabric makes me feel artistic.
- 13. Things I make are/will be unique.
- 17. I find fabric irritating and difficult to work with. (RC)
- 18. I feel good about myself when I work on a sewing project.
- 22. My sewing projects can trigger my memory of other people, times, or events.
- 23. Handcrafted items do not have a place in today's society. (RC)
- 24. Working on sewing projects can cheer me up if I feel down.
- 32. I anticipate that sewing will be a part of my life after this class.
- 34. Sewing helps me think creatively.
- 38. Taking this class has a positive effect on my life.
- 46. Sewing is an expression of my creativity.

Items 17 and 23, marked with RC, were reverse coded.

The majority of these items (items 9, 13, 17, 18, 22, 23, 32, 34, 38, and 46) were constructed for this instrument to align with organization, the fourth level of the affective domain as described by Krathwohl et al. (1964). A few items were drawn from leisure and hedonic studies. Item 7 “sewing allows me to escape the pressures of my daily routine,” is similar to statements found in research in the area of leisure studies (Schulz & Watkins, 2007; Unger & Kernan, 1983). Item 24 “working on sewing projects can cheer me up if I feel down,” is patterned after a statement used by Arnold and Reynolds (2003) investigating the hedonic reasons that people shop.

**Characterization by a value or value complex (Level V).** At this level an individual experiences a class “in terms of his unique personal characteristics...and his philosophy of life or world view” (Krathwohl et al., 1964, p. 165). Students would use sewing to enrich and bring meaning to their lives.

Items designed to measure the characterization level of the affective domain were:

- 20. Sewing projects enrich my life.
- 26. Projects I work on have meaning to me.
- 35. I value my classmates' ideas and perspectives, even if they are different from my own.
- 39. Touching fabric helps me forget everyday problems.
- 41. Sometimes I get so relaxed during sewing that it is almost spiritual and that is satisfying.
- 42. Sometimes I lose track of time when I am involved in a sewing project.
- 48. Sewing inspires me.
- 49. Fabric inspires me.

Items 20 “sewing projects enrich my life,” 26 “projects I work on have meaning to me,” and 35 “I value my classmates' ideas and perspectives, even if they are different from my own” were constructed for this instrument to align with characterization, the fifth level of the affective domain hierarchy as described by Krathwohl et al. (1964). Item 39 “touching fabric helps me forget everyday problems” was patterned after Unger and Kernan (1983), who investigated the meaning of leisure by using six subjective categories. One category was involvement, which included the statement, “It helps me forget about the day's problems” (1983, p. 387). Item 41 “sometimes I get so relaxed during sewing that it is almost spiritual and that is satisfying” and item 42 “sometimes I lose track of time when I am involved in a sewing project” were inspired by a Leisure Meaning Inventory (Schulz & Watkins, 2007, p. 488). Their items read, “sometimes I get so relaxed during my leisure it is almost spiritual and that is satisfying” and “sometimes during my leisure, I get so absorbed that I don't feel the time passing.” The idea for items 48 “sewing inspires me,” and 49 “fabric inspires me” originated from the term “inspired” used as part of a bipolar scale for student motivation (Rubin, Palmgreen, & Sypher, 2004, p. 346).

## **Self-Efficacy**

These items were designed to answer the second research question: What are the levels of perceived self-efficacy attained by beginning students enrolled in apparel construction/sewing laboratory classes? And, do affective levels have a relationship to the levels of the students' perceived self-efficacy? Bandura (1994) associated self-efficacy with motivation. Bandura (2004) indicated that people with high efficacy beliefs expect positive outcomes from their efforts and reiterated that efficacy beliefs affect motivation. He related self-efficacy to determining personal goals, the level of effort and perseverance put forth to reach the goals, including the reaction to failure (Bandura, 1994). In an academic setting of an apparel construction/sewing laboratory class, effort, perseverance, and reaction to failure are important. It takes a lot of effort and perseverance to practice and complete a garment, especially for beginning students, who may experience a sense of failure during class.

The main section of the instrument contained 24 items to assess the self-efficacy of the students. Most items were based upon scales from Colquitt, LePine, and Noe (2000); Garant, Charest, Alain, and Thomassin (1995); Sherer et al. (1982); Stumpf et al. (1987); and Zimmerman et al. (1992). Ten of the items were reverse coded so that higher scores represent higher self-efficacy. In addition, 13 items were modified from their original scales so that they were specific to sewing or an apparel construction/sewing laboratory class.

Items designed to measure self-efficacy were:

10. I have realistic goals and a timeline to complete my sewing projects.
11. I value the ability to solve sewing problems.



- 21. I am developing myself as a person through sewing projects.
- 25. I am confident in my sewing abilities.
- 30. I give up on projects easily. (RC)
- 31. I am meeting personal goals when I sew.
- 44. I lose interest in sewing when the project is too complicated. (RC)
- 45. Failure just makes me try harder.
- 47. I get easily frustrated with sewing projects. (RC)
- 51. I do not seem capable of dealing with most problems that come up in class. (RC)
- 52. When unexpected problems occur I don't handle them well. (RC)
- 54. I can motivate myself to do my sewing projects.
- 55. I am confident of performing well in this class.
- 57. I give up on things before completing them. (RC)
- 58. I feel insecure about my ability to do things in class. (RC)
- 61. If something in class looks too complicated, I do not try very hard at it. (RC)
- 62. I avoid trying to learn new things when they look too difficult for me. (RC)
- 64. When I set important class goals for myself, I rarely achieve them. (RC)
- 65. I am able to concentrate on my sewing projects.
- 66. If I can't do a sewing task the first time, I keep trying until I can.
- 67. I finish my sewing projects by the time they are due.
- 68. I can work on my sewing projects even though there are distractions.
- 70. I remember information presented in class and textbook.

Items 30, 44, 47, 51, 52, 57, 58, 61, 62, and 64, marked with RC, were reverse coded.

Five of the items were not modified from existing scales; they were developed specifically for this measure. The first one, item 10 "I have realistic goals and a timeline to complete my sewing projects," was inspired by Anderson (2003), who identified realistic goals and defined timelines as elements for personal capacity. Four other items were inspired by the affective domain (Krathwohl et al., 1964). They included item 11 "I value the ability to solve sewing problems," item 21 "I am developing myself as a person through sewing projects," item 44 "I lose interest in sewing when the project is too complicated," which was reverse coded; and item 47 "I get easily frustrated with sewing projects," also reverse coded.

The remaining items in the self-efficacy area were modified or compiled from existing self-efficacy scales. When an item from an existing scale made sense in relation to this research study it was used directly, while other items were modified from their existing scales to relate specifically to an academic setting that involved sewing. Item 25 “I am confident in my sewing abilities” was modified from Stumpf et al. (1987, p. 98), which was originally designed to determine self-efficacy during a stressful career-related event such as interviewing. Colquitt et al. (2000) related meeting goals (see item 31 “I am meeting personal goals when I sew”) to self-efficacy. Bandura (1994) added that people set goals as a part of the motivational process. Item 55 “I am confident of performing well in this class” was a statement used by Garant et al. (1995).

Sherer et al. (1982, p. 666) was the source for several general self-efficacy items, including item 30 “I give up on projects easily,” item 45 “Failure just makes me try harder,” item 51 “I do not seem capable of dealing with most problems that come up in class,” item 52 “When unexpected problems occur I don’t handle them well,” item 57 “I give up on things before completing them,” item 58 “I feel insecure about my ability to do things in class,” item 61 “If something in class looks too complicated, I do not try very hard at it,” item 62 “I avoid trying to learn new things when they look too difficult for me,” item 64 “When I set important class goals for myself, I rarely achieve them,” and item 66 “If I can’t do a sewing task the first time, I keep trying until I can.” Of those ten items, half of them were modified for this study (items 30, 51, 58, 61, and 66).

Zimmerman et al. (1992, p. 668) and Choi et al. (2001, p. 477) provided self-efficacy items that were related to self-regulated learning. All of the following items were modified from their scales. This included item 54 “I can motivate myself to do my sewing projects,” item 65 “I am able to concentrate on my sewing projects,” item 67 “I finish my sewing projects by the time they are due,” item 68 “I can work on my sewing projects even though there are distractions,” and item 70 “I remember information presented in class and textbook.”

### **Sense of Community**

Research Question 3 addressed relationships among the variables of perceived self-efficacy, how comfortable students feel participating in class, students' sense of community, students' overall feelings and general satisfaction with the class, the quality of student work done for the class, and students' attitude toward the class. The scale of sense of community contributed to answering Research Question 3.

Bogue (2002) stressed the importance of community in college classrooms as a source for creativity, and Illeris (2003a, 2003b) noted the social aspect of learning as an important part of his learning triangle. Wright (2005) suggested greater personal growth, problem solving, and self-esteem when participants in a group feel as though they are part of a community. Tinto (1997) noted increased persistence when students are part of a class community. The underlying concepts in this section included sharing of interests and values, a greater depth of interaction that suggests internalization of values as described by Krathwohl et al. (1964).

Items included in the main section of the survey investigated the sense of community that may occur during participation in an apparel construction/sewing laboratory class. The items were developed specifically for this survey.

Items designed to measure the sense of community were:

- 2. I communicate with a classmate(s) outside of class.
- 3. I enjoy sharing my sewing interests with my classmates.
- 5. I feel as though I am part of a sewing community.
- 27. I don't want to give advice about sewing or anything else. (RC)
- 28. I care about the people I have met in class.
- 29. People in class care about me.
- 33. I don't want to hear about any of my classmates' problems. (RC)

Items 27 and 33, marked with RC, were reverse coded.

Items 2 "I communicate with a classmate(s) outside of class" and 5 "I feel as though I am part of a sewing community" were created to measure a concept of community. Item 3 "I enjoy sharing my sewing interests with my classmates" was modified from Kyle, Absher, Norman, Hammitt, and Jodice (2007, p. 408).

The remaining items were modified from Sheldon, Elliott, Kim, and Kasser (2001, p. 328). These included items 27 "I don't want to give advice about sewing or anything else," 33 "I don't want to hear about any of my classmates' problems," 28 "I care about the people I have met in class," and 29 "people in class care about me."

### **Overall Feelings and General Satisfaction With the Class**

This part of the instrument was developed to measure hedonic levels as well as global feelings about the class. The unipolar scale was measured by a five-point scale (*strongly disagree* to *strongly agree*) and included terminology from research such as Huang's (2005) study of hedonic and utilitarian aspects of web performance and a hedonic and utilitarian measurement study of consumer attitudes by Voss,

Spangenberg, and Grohmann (2003). Huang had developed a valid and reliable performance measurement that incorporated both utilitarian and hedonic aspects (reliability for hedonic aspects = 0.87 for the three sets of words, percent variance extracted = 0.70). Huang (2005) originally used a semantic differential scale using the three sets of words: *enjoyable-unenjoyable*, *interesting-boring*, *fun-frustrating* as bipolar opposites. It was determined that some of the opposite terms did not make sense (e.g. *fun-frustrating*) so the concept of Huang's hedonic terms were placed on a unipolar scale using a five-point measure ranging from *strongly disagree* to *strongly agree*. Voss, Spangenberg, and Grohmann (2003, p. 312) also used the parameters of *enjoyable-unenjoyable*, but used *fun-not fun* instead of *fun-frustrating*. Items designed to measure the overall feelings and general satisfaction with the class were:

1. Overall this class is enjoyable.
2. Overall this class is frustrating. (RC)
3. Overall this class is interesting.
4. Overall this class is fun.
5. Overall this class is boring. (RC)
6. Overall this class is satisfying.
43. Overall this was a good course.
56. I learned a lot in this class.
60. The content of this class is meaningful for me.

Items 2 and 5, marked with RC, were reverse coded.

There were three items that were a part of the main section of the survey because the pattern of the items was a better fit for the responses in the main section, but they were analyzed with this concept because they related to the overall feelings and general satisfaction with the class. Items number 43 "Overall this was a good course," number 56 "I learned a lot in this class," and number 60 "The content

of this class is meaningful for me” were added into this section for factor analysis. All of these items were from the 2009 Iowa State University Student Survey of Instruction.

### **Quality of Student Work Done for Class**

This section of the instrument asked the student to reflect upon his/her quality of work on a six-point scale (by circling one of the following: *poor, a lot below average, a little below average, a little above average, a lot above average, or excellent*). Accompanying this item was an open-ended item asking the student to comment about influencing factors that led to the self-evaluation. The inspiration for asking this item originated from a 1990 student course evaluation survey form used at Woodbury University, a private four-year University, where the researcher had taught for several years. Because no information was asked about the grade the student was earning, it was appropriate to have the student reflect upon the quality of his/her work.

### **Student Attitude Toward the Class**

This section of the instrument asked the student to describe his/her current attitude toward the class using a six-point scale (by circling one of the following: *very negative, somewhat negative, a little negative, a little positive, somewhat positive, or very positive*). An open-ended question also accompanied this item, asking for any comments about influencing factors that led to this attitude. No specific items were asked about the instructor of the class; the open-ended space provided an opportunity for the student to comment if the instructor influenced his/her attitude.

**Final Comments—from Open-Ended Question**

The final section of the instrument asked for any comments with an additional note of appreciation for the comments. This provided an opportunity for the student to mention any interesting or troubling items that he/she encountered, as well as providing space for the student to mention any other influencing factors, such as the instructor's attitude or knowledge or personal challenges that the student had during the duration of the class.

**Questions for Instructors**

At the time the survey was administered to students, each instructor was asked about the number of students enrolled, how many sewing machines were available, and, in general, how many sewing machines were in working order. The condition of the sewing machines (working or non-working) and the number of sewing machines available compared to the number of students enrolled might have an effect upon the way students answered the survey. The day(s) and time(s) of each class surveyed were noted.

**Analysis of the Data**

Factor analysis using SPSS 17.0 was the primary statistical procedure used in this study. Exploratory factor analysis was designed to explore the data to discover the underlying constructs. Factors were extracted using principal components analysis (PCA), which is the most common type of analysis used when data reduction (or exploration) is the purpose of the factor analysis (Garson, 2010). Factor analysis is used to reduce a set of complex data into a multi-item variable and also to connect underlying constructs or factors with each other through correlations.

It can validate a scale by showing that there is a single underlying construct (Garson, 2010). This would help assess construct validity. In this study factor analysis was used to find the underlying factor to be used as a multi-item variable.

One result of exploratory factor analysis is a factor matrix (Field, 2005) that lists various factors extracted and factor loadings between the items and the factor. The factor loadings are correlations between the variable and the factor (Field, 2005; Garson, 2010; Kline, 1994, p. 5). A minimum factor loading of .50, with no loading higher than .25 on other factors, was selected for inclusion on a factor. Field (2005) discussed the relationship between the factor loading and the sample size. The smaller the sample size, the more careful one has to be in selecting a minimum factor loading. While sample sizes of above 500 were recommended, samples above 300 were considered adequate for a stable factor solution. The sample size in this study was 255.

SPSS 17.0 had a default extraction set to extract factors that have an eigenvalue of 1 or above (Field, 2005). An eigenvalue (or characteristic root) represents the amount of variance explained in relation to the total variance (Klein, 1994). As the eigenvalue of a factor increases, the total variance explained by that factor increases, too. The more variance explained, the less can be attributed to random error or other variables.

Reliability was determined through Cronbach's *alpha*. This measures "internal consistency" (Field, 2005, p. 668). Nunnally (1978, p. 245) recommended that instruments used in basic research have reliability of .70 or better. Field (2005, p.



668) indicated that an alpha of .70 was suitable and realistic as an accepted value for reliability.

Descriptive statistics were used to analyze the demographic and motivation portions of the instrument as well as the quality of work and the attitude toward the class portions of the instrument; central tendency (means) and variability (standard deviations) were calculated. Qualitative analysis was used to find themes among comments that were written-in by respondents.

Pearson correlations were used between self-efficacy and the different affective levels in order to answer the subcomponent of Research Question 2. Additionally, Pearson correlations were used to answer Research Question 3, which asked about the relationships among the variables of perceived self-efficacy, how comfortable students felt participating in class, students' sense of community, students' overall feelings and general satisfaction with the class, the quality of student work done for the class, and students' attitude toward the class.

## CHAPTER 4. RESULTS AND DISCUSSION

The first part of this chapter includes the results and discussion in the order of the instrument layout. It begins with the demographic information and then includes the results of the number of units completed and sewing experience of the participants. The motivating reasons for enrolling in the class follow.

The latter part of this chapter is organized around the three research questions. Descriptive statistics and factor analysis are provided for all of the main variables. Pearson correlations are presented to answer part of Research Question 2 and all of Research Question 3.

The sample included 255 beginning apparel construction/sewing laboratory students enrolled in the surveyed classes. Not all enrolled students were in class on the date of data collection and some students declined to participate. One hundred fifty-five useable surveys were returned, yielding a 61% response rate.

### Demographic Information

The age of the participants ranged from 18-60 years old ( $M = 25.96$ ). There was a non-normative distribution within the age variable of this sample, with a *Mode* of 21 and 50% of the students between the ages of 18 and 22. The majority (81.2%) of the students surveyed were age 29 or younger. The survey group is slightly younger than the total student population of all the community colleges surveyed, where 72.2% of the students are age 29 or younger (California Community Colleges, Chancellor's Office, 2010b).

Of the 155 participants, 139 (89.7%) were female, and 16 (10.3%) were male. The survey group is substantially skewed toward female. The Chancellor's Office of

the California Community Colleges (2010b) reported that, within the community colleges surveyed, 55.32% of the student body is female, and 44.33% is male (with 0.34% unknown). In the researcher's experience, women tend to be the strong majority in these classes.

A comparison between the percentages of each ethnicity of the sample of the study and the percentages of those students enrolled in the California Community Colleges that were surveyed in spring 2009 indicated that a few ethnic groups were either under- or over-represented (see Table 2). Specifically, African American/Black, Hispanic/Latino/Latina, and Filipino students were under-represented and Asian or Asian American students were over-represented. When compared to the overall ethnicity of the populations of Los Angeles and Ventura Counties, Asian or Asian American students were vastly over-represented and Hispanic students were vastly under-represented in the apparel construction/sewing laboratory classes that were surveyed. It is unknown if either of these situations influenced the study. The ethnicity of the students in each class appeared to reflect the ethnic make up of the neighborhoods surrounding the community colleges. Underrepresentation of Hispanic/Latina students in the fashion area has been noted by a nonprofit organization, Latina Fashionista (*Latina*, 2008) based in Los Angeles County. This organization stresses education in fashion, both graduation from high school and college, in predominantly Hispanic communities. Table 2 sets forth the variety of ethnicity of the participants along with corresponding data from the general populations of the community colleges surveyed (California Community Colleges

Chancellor's Office, 2010b) and of Los Angeles and Ventura counties (State of California, 2009).

**Table 2. Ethnicity of Participants and General Populations**

Ethnicity	Frequency	Percent	CA Community Colleges Surveyed <sup>b</sup>	Los Angeles & Ventura Counties <sup>d</sup>
African American/Black	16	10.3	13.12	8.50
Asian or Asian American <sup>a</sup>	40	25.8	13.63	12.83
European American/White	41	26.5	26.46	28.89
Hispanic/Latino/Latina	36	23.2	32.69	47.04
Native American	1	0.6	0.62	0.25
Filipino (wrote in)	1	0.6	3.21	Not recorded
Pacific Islander (wrote in)	1	0.6	0.91	0.26
Middle Eastern (wrote in)	2	1.3	Not recorded	Not recorded
Marked more than one ethnic category	17	11	Not recorded	2.23
Total	155	99.9	90.64 <sup>c</sup>	100

*a* Includes those who wrote in Asian (7), Chinese (3) or Korean (1)

*b* Data for the Community Colleges surveyed only, (California Community Colleges Chancellor's Office, 2010b)

*c* Categories not included: Other Non-White (2.54%) and Unknown (6.81%), total 99.99

*d* Data for Los Angeles and Ventura counties only, (State of California, 2009)

### Number of Units Completed

Students were asked how many academic units they had completed. This appeared to be a confusing item for some respondents. While 17 students left this blank, those who did fill in the blank had answers that varied from zero to 300 ( $M = 48.4$ ,  $Median = 30$ ,  $Mode = 60$ ). Sixty units would traditionally be the amount of units required for an associate's degree from a California community college. In retrospect, it would have been helpful to have asked if students had completed a degree, including associate's, bachelor's, or higher degrees. Some students casually mentioned that they already held a higher degree. Students may have written down "60 units" or "120 units" to indicate that an associate's degree or a bachelor's degree, respectively, had already been earned. This information, along with

consideration of a mean age of almost 26 years, indicated that many of the students surveyed may not be traditional first-year or even second-year college students (59.1% of students in community colleges surveyed reported age 24 or younger according to the Chancellor's Office, 2010). California community colleges admit students with a high school degree or equivalent or who are over the age of 18 (California Community Colleges, Chancellor's Office, 2010). It is common to find students who are retraining or investigating new areas of interest.

### **Sewing Experience**

Sewing experience was divided into two questions; the first asked if the respondent had been enrolled in any sewing classes previous to this class. Table 3 shows these results. About 77% or 120 of the students had no previous experience in any sewing classes. Many high schools have closed programs in family and consumer sciences (also known as home economics) that included apparel construction or sewing laboratories, thereby reducing the number of students who have had any formal sewing training. The 21.3% of students who answered yes may have reported either a high school class or class conducted at a fabric or sewing machine shop. It is clear, however, that a substantial majority of students surveyed had no sewing experience from any type of class.

**Table 3. Sewing Experience: Previous Enrollment in a Sewing Class**

	Frequency	Percent
No	120	77.4
Yes	33	21.3
No Answer	2	1.3
Total	155	100.0

Informal experience in sewing was assessed by the second question, the results of which appear in Table 4. Only 41% of the participants reported no informal sewing experience. Over half of the students had some kind of informal sewing experience. No specific information was asked as to what kind of informal experience the student might have had. With the proliferation of “Do It Yourself” projects, students may have tried sewing on their own, or a friend or relative may have mentored them.

**Table 4. Sewing Experience: Any Informal Experience**

	Frequency	Percent
No	64	41.3
Yes	87	56.1
No Answer	4	2.6
Total	155	100.0

The criterion of sewing experience was used to identify beginning sewers in the cases in which a student was enrolled in a multilevel class and did not mark a level of *beginning*. If a student had experience in a sewing class and informal experience, along with no indication of class level, that student was classified as an intermediate level student, not beginning level. Informal sewing experience alone was not enough to define an intermediate level student.

### **Motivation**

Students were asked to respond to a variety of reasons regarding the factor(s) which influenced them to enroll in their class. Each reason was followed by the following choices: 1 (*not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*greatly*), and 5 (*absolutely*). Table 5 lists the reasons and responses. Item 1 “it is a required course for my program/major” ( $M = 3.05$ ,  $SD = 1.82$ ), had a mean that was comprised of an

almost even split between 39.4% who answered 1 (*not at all*) and 40% who marked 5 (*absolutely*). This might indicate that about two fifths of the participants are not majoring in the course program or simply that they are not as concerned about what is required for their program in comparison to other motivations for enrollment.

The top motivation for these students was found in item 2 ( $M = 4.49$ ,  $SD = .95$ ), “I wanted to learn how to sew.” Considering that the clear majority of students had no formal training and over two fifths had no informal training in sewing, this reason makes sense.

Drohan’s (1987) and Ostapovitch’s (1961) studies found creativity to be a top motivation to sew, whether by class instruction in Edmonton, Alberta, or at home in Michigan. In the current study of class instruction in southern California, two reasons addressed the creative theme for enrollment. One was item 5 ( $M = 4.48$ ,  $SD = .98$ ), “I wanted to be able to create original items for myself, others, or my home” and the other item 6 ( $M = 4.10$ ,  $SD = 1.15$ ) “sewing is a form of self-expression or a creative outlet for me.” These results support Drohan and Ostapovitch.

Earlier, Lutz (1957) found that sewing for creativity garnered low responses for adults enrolled in adult education while sewing for economic value was much more important. Ostapovitch (1961) found that women in lower social classes and economic groups she surveyed sewed to save money. No data were collected on social class or economic status in the current study. However, saving money scored near the bottom for the current sample, with a mean just above the *neutral* level, probably because if one’s time is factored into the cost of a project, there may not be any monetary savings in a sewing project. When editorializing about the concept of

time from a gender perspective, Sabelis, Nencel, Knights, and Odih (2008) suggested that time was “a commodified product” (p. 423), and any saved time generally would be spent in paid employment. Interestingly, Clark and Wyatt (1911) almost 100 years earlier reported that young working women did not have time or energy to sew garments at home despite the lack of quality goods in the marketplace.

**Table 5. Influential Reasons for Enrollment in Class**

How much did the following <u>influence</u> your decision to enroll in an apparel construction/sewing lab?	<i>M</i>	<i>SD</i>	<i>n</i>
2. I wanted to learn how to sew.	4.49	.95	154
5. I wanted to be able to create original items for myself, others, or my home.	4.48	.98	155
7. Sewing gives me a sense of accomplishment or achievement.	4.25	.98	154
4. I enjoy sewing.	4.21	1.09	153
6. Sewing is a form of self-expression or a creative outlet for me.	4.10	1.15	155
9. I wanted to be able to alter my clothing to fit better.	3.99	1.28	154
10. I wanted to repair or maintain clothing or household items.	3.82	1.31	153
3. I wanted to learn how to use my sewing machine.	3.67	1.57	155
11. I can save money by sewing items instead of buying them.	3.20	1.44	155
1. It is a required course for my program/major.	3.05	1.82	155
8. I feel that I get better quality if I sew, rather than buy items.	3.03	1.32	154

Two lines were available for students to write in additional reasons that motivated them to enroll in the class. Only 16 of the 155 students commented. Two themes emerged from the comments. One theme related to careers (starting or changing careers, desire to become a designer, or desire to work in the fashion area). This information combined with the number of units completed (*Mode* = 60 units) may indicate that some of the students were returning to school as an associate’s degree is typically a 60 unit program.



The second theme related to creative endeavors (create own fashion, get inventive or artistic or make costumes, and “I love making punk clothing”) supported Drohan’s (1987) and Ostapovitch’s (1961) results. One student did indicate a connection with family at a different time by writing in: “My mother sewed all of my clothing growing up.” These creative aspects and connective expressions may relate to the organization level of the affective domain (Level IV), characterized by comparing, integrating, modifying, relating, or synthesizing (Linn & Miller, 2005).

### **Research Question 1**

The first research question asked what levels of affective domain were attained by beginning students enrolled in apparel construction/sewing laboratory classes. This was measured by the mean responses to items developed for the corresponding five levels of the affective domain outlined by Bloom and his associates (Krathwohl, et al., 1964). Each level is presented in order here, from the lowest, receiving, in which a student exhibits awareness of the class, to the highest, characterization by a value, in which a student exhibits behavior changes influenced by the values learned in class.

#### **Receiving, Level I of the Affective Domain**

The first level of the affective domain had only two items which were used as a measure (see Table 6). So few items do not warrant factor analysis. On the surface these two items measure much different parts of the same construct. Item 12 “I attend class regularly” measured whether the student went to class, but not necessarily had interest in class. Item 69 “to complete my sewing projects I follow

directions” measured attending to class by willing to give attention to class by following directions.

**Table 6. Items Related to Receiving, Level I of the Affective Domain: Descriptive Statistics**

Items Related to Receiving, Level I of the Affective Domain	<i>M</i>	<i>SD</i>	<i>n</i>
12. I attend class regularly.	4.46	.82	155
69. To complete my sewing projects I follow directions.	4.16	.85	154

Almost 90% of the students responding to item 12 “I attend class regularly,” marked *agree* or *strongly agree*, indicating that these students were meeting the receiving, or first level, of the affective domain in terms of attending class. It was the final day of class for many of these students, so attendance would have been more likely, even if there were those who did not attend regularly. It is unknown if attendance was a requirement of the classes for a grade or if that had an influence on the responses. Seventy-nine percent of the students responding to item 69 “to complete my sewing projects I follow directions,” marked *agree* or *strongly agree*, indicating that they were also meeting the first level of the affective domain by attending to and following directions. Just as the mean was lower for this item, the median was also lower (4 vs. 5 respectively). Overall, it appears that a substantial majority of students did attain the receiving level of the affective domain.

### **Responding, Level II of the Affective Domain**

This level of the affective domain indicates an active participation in class beyond simply attending to class. The student starts to become engaged and interested in learning. Illeris (2003b) indicated that learning was desire-based. Kyle et al. (2007) observed that a motivational state, when aroused, would often motivate

behavior such as participation. Table 7 lists the five items designed to measure the responding level. The individual item with the highest mean ( $M = 4.30$ ,  $SD = .74$ ) in the responding level of the affective domain (Level II) was item 8 “I am interested in class.” Virtually 90% of the students responded to this statement by marking *agree* or *strongly agree*, a testament that students were fairly interested in the class. When compared to the receiving Level I of the affective domain, the same percentage of students marked favorable (*agree* or *strongly agree*) responses.

The one reverse coded item had the lowest mean ( $M = 3.84$ ,  $SD = 1.14$ ). This was item 4 “I don’t mind missing class.” The reverse coding may have caused confusion among students or students may not equate being in class with interest in the class. Still, almost 70% of the students responded favorably to this item by marking *agree* or *strongly agree*, indicating that they would mind missing class. This would be consistent with the 79% of the students who responded with either *agree* or *strongly agree* to item 1 “I look forward to attending class” ( $M = 4.13$ ,  $SD = .86$ ). The majority of students in this sample appear to have attained the participation associated with the responding level of the affective domain.

**Table 7. Items Related to Responding, Level II of the Affective Domain: Descriptive Statistics**

Items Related to Responding, Level II of the Affective Domain	<i>M</i>	<i>SD</i>	<i>n</i>
8. I am interested in class.	4.30	.74	150
1. I look forward to attending class.	4.13	.86	150
53. This class increased my interest in the subject of sewing.	4.07	.97	150
50. Sewing is the right activity for me to be doing this term	4.05	1.02	150
4. I don’t mind missing class. (RC)	3.84	1.14	150

Exploratory factor analysis was conducted on the five items measuring the responding level of the affective domain using principal component extraction. Only one factor was extracted because there was only one factor with an eigenvalue over 1. All but one of the items loaded higher than .50, indicating that the low-loading item should be removed (item 4 “I don’t mind missing class”). Once that item was removed, all four items loaded on one factor with an eigenvalue of 2.43 that explained well over half (60.84%) of the variance. Table 8 summarizes the factor loadings. Reliability of the four items was acceptable; Cronbach’s *alpha* was .78.

**Table 8. Items Related to Responding, Level II of the Affective Domain: Factor Loadings**

Items Related to Responding, Level II of the Affective Domain	Factor Loading
8. I am interested in class.	.83
53. This class increased my interest in the subject of sewing.	.78
50. Sewing is the right activity for me to be doing this term	.77
1. I look forward to attending class.	.75

The overall mean of the multi-item variable was 4.08 ( $SD = .63$ ). Overall, when compared to the means of other groups of items in the higher levels of the affective domain, this group of means was the highest overall (see Table 15). These beginning students appeared to have clearly reached the responding level of the affective domain.

### **Valuing, Level III of the Affective Domain**

The valuing level of the affective domain stressed an appreciation for and enjoyment of sewing. Appreciation for the skill of sewing was noted by the favorable responses to item 63 “sewing is a valuable skill” ( $M = 4.59$ ,  $SD = .63$ ). Ninety-three percent of the students marked *agree* or *strongly agree*. It is notable that this mean

was even higher than item 8 “I am interested in class,” which had the highest mean ( $M = 4.30$ ,  $SD = .74$ ) in the previous responding level of the affective domain. Even for those who did not exhibit a strong interest in their class, less than half (44.2%) marked *strongly agree* on item 8 “I am interested in class.” As an indication this group values the skill of sewing, more than three fifths (65.4%) marked *strongly agree* on item 63 “sewing is a valuable skill.” The *Merriam-Webster Online Dictionary* (2005) defined appreciation as a “favorable critical estimate.” Students clearly gave the skill of sewing a “favorable critical estimate.” Following a trend of high means, almost 88% of the students marked *agree* or *strongly agree* for both items 59 “I admire people who sew well” ( $M = 4.43$ ,  $SD = .82$ ) and 14 “I like the idea that I could give someone something I made” ( $M = 4.42$ ,  $SD = .92$ ). These items also ranked higher in mean score when compared to the high mean for item 8 “I am interested in class” in the responding level ( $M = 4.30$ ,  $SD = .74$ ).

A few items specifically dealt with enjoyment; item 6 “I enjoy spending time on sewing projects,” and item 40 “I enjoy shopping for fabric.” A clear majority of students had favorable responses, exhibited by marking *agree* or *strongly agree* on these items, as almost 78% responded favorably to item 6 “I enjoy spending time on sewing projects,” and 80% responded favorably to item 40 “I enjoy shopping for fabric.”

These results support the notion that many students reached the valuing level of the affective domain. It should be noted that item 59 “I admire people who sew well” was not a part of the final multi-item variable for valuing. It did not show a high correlation among the other items in the correlation matrix and did not load above

.50. Table 9 summarized the results for the items designed to measure the valuing level of the affective domain.

**Table 9. Items Related to Valuing, Level III of the Affective Domain: Descriptive Statistics**

Items Related to Valuing, Level III of the Affective Domain	<i>M</i>	<i>SD</i>	<i>n</i>
63. Sewing is a valuable skill.	4.59	.63	143
59. I admire people who sew well.	4.43	.82	143
14. I like the idea that I could give someone something I made.	4.42	.92	143
40. I enjoy shopping for fabric.	4.20	.97	143
19. It is foolish to make something that a person could buy. (RC)	4.18	.95	143
6. I enjoy spending time on sewing projects.	4.08	.94	143
16. I can tell the difference between good and poor sewing skills.	3.97	.86	143
37. I can make a product or an item that is soothing to me.	3.71	1.09	143
36. The feel of certain fabrics (like velvet or satin) is soothing to me.	3.50	1.13	143
15. I would rather purchase than make an item to give as a gift to Someone. (RC)	3.19	1.25	143

Exploratory factor analysis was conducted on the 10 items measuring valuing (Level III of the affective domain) using principal component extraction with Varimax rotation. The results may be found in Table 10. Three factors were initially extracted, but an analysis of the component matrix showed cross loadings, and the scree plot revealed that there was one strong factor. After rerunning the factor analysis as a single factor solution, six of the ten items loaded on the single factor higher than .50, indicating that four items should be removed (items 15 “I would rather purchase than make an item to give as a gift to someone,” 16 “I can tell the difference between good and poor sewing skills,” 19 “it is foolish to make something that a person could buy,” and 59 “I admire people who sew well”). Both of the reverse coded items loaded less than .50. Rerunning exploratory factor analysis without those four items showed all six items were latent items for the variable of valuing. An eigenvalue of

2.64 accounted for 44.05% of the variance. Cronbach's *alpha* of .74 indicated a low but acceptable reliability of the items as a multi-item variable.

**Table 10. Items Related to Valuing, Level III of the Affective Domain: Factor Loading**

Items Related to Valuing, Level III of the Affective Domain	Factor Loading
37. I can make a product or an item that is soothing to me.	.77
14. I like the idea that I could give someone something I made.	.67
63. Sewing is a valuable skill.	.65
6. I enjoy spending time on sewing projects.	.64
36. The feel of certain fabrics (like velvet or satin) is soothing to me.	.64
40. I enjoy shopping for fabric.	.60

The overall mean for the summed group of items designed to measure the concept of valuing (Level III of the affective domain) was 3.99 ( $SD = .44$ ). This mean is lower than the overall mean for the responding level of the affective domain (Level II). Table 15 shows the relationships among the different levels of the affective domain.

### **Organization, Level IV of the Affective Domain**

The organization level of the affective domain (Level IV), was expected to indicate internalization of the values of sewing, using sewing as a creative or artistic endeavor, and including sewing as a part of the student's life. Table 11 lists the items developed for this level of the affective domain. Item 9 "creating something out of fabric makes me feel artistic," had a high mean ( $M = 4.36$ ,  $SD = .84$ ) with almost 86% of the students marking *agree* or *strongly agree* as their response. Chaker (2006), Johnson (1960), Loker (1987), Nelson et al. (2005), and Schofield-Tomschin (1999) linked textiles and the process of sewing with creativity. Item 23 "handcrafted items do not have a place in today's society" was a reverse coded item that had the

highest mean ( $M = 4.40$ ,  $SD = .86$ ) yet in the process of factor analysis, this item failed to load higher than .50 and was removed from the multi-item variable. The high item means suggest that this research supports that a majority of the students also partially attained the organization level.

One item that was designed to measure the connection and meaning that sewing could create transcending time and events was item 22 “my sewing projects can trigger my memory of other people, times, or events” ( $M = 3.11$ ,  $SD = 1.15$ ). This item had the lowest mean for an individual item. Thirty-eight percent of the students marked this item as *neutral*. Not quite 36% marked this item as *agree* or *strongly agree*. After factor analysis it did remain as part of the multi-item variable for organization, an indication that it related to the concept of organization. These results did not support DeLong et al. (2007) who described that fabric was seen as a source of emotional connection to other memories.

**Table 11. Items Related to Organization, Level IV of the Affective Domain: Descriptive Statistics**

Items Related to Organization, Level IV of the Affective Domain	<i>M</i>	<i>SD</i>	<i>n</i>
23. Handcrafted items do not have a place in today's society. (RC)	4.40	.86	146
9. Creating something out of fabric makes me feel artistic.	4.36	.84	146
38. Taking this class has a positive effect on my life.	4.21	.82	146
32. I anticipate that sewing will be a part of my life after this class.	4.18	.98	146
46. Sewing is an expression of my creativity.	4.14	.95	146
18. I feel good about myself when I work on a sewing project.	4.12	.88	146
13. Things I make are/will be unique.	4.11	1.05	146
34. Sewing helps me think creatively.	4.11	.93	146
17. I find fabric irritating and difficult to work with. (RC)	3.75	1.06	146
24. Working on sewing projects can cheer me up if I feel down.	3.63	1.08	146
7. Sewing allows me to escape the pressures of my daily routine.	3.60	1.22	146
22. My sewing projects can trigger my memory of other people, times, or Events.	3.11	1.15	146



Table 12 lists the final items that grouped together to measure the underlying concept of organization. Exploratory factor analysis was conducted on the twelve original items measuring organization (Level IV) in the affective domain, using principal component extraction with Varimax rotation. Two factors were initially extracted, but an analysis of the component matrix showed some cross loadings, and the scree plot revealed that there was one component that was above the best fit line. After rerunning the factor analysis as a single factor solution, 10 of the 12 items loaded on the single factor higher than .50, indicating that items 17 “I find fabric irritating and difficult to work with,” and 23 “handcrafted items do not have a place in today’s society,” should be removed. Both of the reverse coded items in this group were removed. Factor analysis was re-run as a single factor solution. The eigenvalue of 3.46 explained almost half (49.48%) of the variance. The 10 items together had a Cronbach’s *alpha* of .89, which is acceptable reliability.

**Table 12. Items Related to Organization, Level IV of the Affective Domain: Factor Loadings**

Items Related to Organization, Level IV of the Affective Domain	Factor Loading
34. Sewing helps me think creatively.	.86
24. Working on sewing projects can cheer me up if I feel down.	.80
18. I feel good about myself when I work on a sewing project.	.79
9. Creating something out of fabric makes me feel artistic.	.71
32. I anticipate that sewing will be a part of my life after this class.	.71
46. Sewing is an expression of my creativity.	.71
7. Sewing allows me to escape the pressures of my daily routine.	.70
13. Things I make are/will be unique.	.65
22. My sewing projects can trigger my memory of other people, times, or events.	.64
38. Taking this class has a positive effect on my life.	.63

Overall, the calculated mean for this set of items that was developed to measure the concept of organization (Level IV of the affective domain) was  $M = 3.91$  ( $SD = .63$ ). Table 15 shows that this mean is lower than the previous means for valuing (Level III of the affective domain) and responding (Level II of the affective domain).

### **Characterization by a Value or Value Complex, Level V of the Affective Domain**

Characterization by a value (Level V of the affective domain) is a level in which students would use sewing to add meaning and enrich their lives. A student's value system would be in place and his/her behavior would be characteristic of that value system. Table 13 presents all of the items designed to measure the characterization level of the affective domain. Two specific items that addressed the first mentioned areas were items 20 "sewing projects enrich my life" ( $M = 3.86$ ,  $SD = .96$ ) and 26 "projects I work on have meaning to me" ( $M = 4.02$ ,  $SD = .95$ ). These means were not as high as other items in this category. About 66% of the students marked *agree* or *strongly agree* for item 20, and for item 26 about 74% marked those choices.

A substantial number of students, about 83%, marked *agree* or *strongly agree* when responding to Item 42 "sometimes I lose track of time when I am involved in a sewing project" ( $M = 4.25$ ,  $SD = .93$ ) that addressed this area and also appeared to be a component of flow. Item 41 "sometimes I get so relaxed during sewing that it is almost spiritual and that is satisfying" ( $M = 3.06$ ,  $SD = 1.19$ ) also described a component of the flow experience. The students were divided in approximately thirds when responding to this: 29% marked *strongly disagree* or *disagree*, 37% marked

*neutral* and 33% marked *agree* or *strongly agree*. These results reflected Csikszentmihalyi's (1975) "flow pattern in everyday life" (1975, p. 140) or "microflow activities." He had specifically cited sewing when he wrote about this theory. Blood (2006) discussed the potential to use the concept of flow when evaluating classes in clothing and textiles. Given the results from beginning apparel construction/sewing laboratory classes, it is reasonable to pursue the concept of flow when investigating these classes. Csikszentmihalyi did describe different levels of flow, from microflow (1975) to the intense feeling of flow that seasoned artists experience (1993). It is reasonable to expect that beginning students might experience some components of microflow but not the intense flow that requires the high capacity of professionals who have practiced their craft for many years.

While the numbers of students responding favorably with regard to the items in the characterization level generally represent much more than half of the students, the percents are not as overwhelming as the percentages that occurred in the receiving, responding, and valuing levels. Overall, the fairly high means and fairly strong percentage of students who responded favorably suggested that some students probably did reach the characterization level of the affective domain.

**Table 13. Items Related to Characterization, Level V of the Affective Domain: Descriptive Statistics**

Items Related to Characterization, Level V of the Affective Domain	<i>M</i>	<i>SD</i>	<i>n</i>
42. Sometimes I lose track of time when I am involved in a sewing project.	4.25	.93	154
35. I value my classmates' ideas and perspectives, even if they are different from my own.	4.22	.79	154
26. Projects I work on have meaning to me.	4.02	.95	154
48. Sewing inspires me.	3.95	.96	154
49. Fabric inspires me.	3.92	.96	154
20. Sewing projects enrich my life.	3.86	.96	154
41. Sometimes I get so relaxed during sewing that it is almost spiritual and that is satisfying.	3.06	1.19	154
39. Touching fabric helps me forget everyday problems.	2.74	1.24	154

Exploratory factor analysis was conducted on the eight items measuring characterization (Level V of the affective domain) using principal component extraction with Varimax rotation. Two factors were initially extracted, but an analysis of the component matrix showed one cross loading item. The scree plot revealed that there was only one component that was above the best fit line. After rerunning the factor analysis as a single solution, seven of the eight items loaded on the single factor higher than .50, indicating that item 35 “I value my classmates’ ideas and perspectives, even if they are different from my own,” should be removed. Rerunning the factor analysis as a single factor without item 35 led to all of the seven items loading onto the one factor with loadings higher than .50. Table 14 presents the factor loadings. The factor had an eigenvalue of 3.46 and explained 49.48% of the variance. The seven items together had an acceptable reliability (Cronbach’s *alpha*) of .83.

**Table 14. Items Related to Characterization, Level V of the Affective Domain: Factor Loadings**

Items Related to Characterization, Level V of the Affective Domain	Factor Loading
48. Sewing inspires me.	.78
41. Sometimes I get so relaxed during sewing that it is almost Spiritual and that is satisfying.	.76
20. Sewing projects enrich my life.	.75
49. Fabric inspires me.	.71
39. Touching fabric helps me forget everyday problems.	.67
42. Sometimes I lose track of time when I am involved in a sewing Project.	.62
26. Projects I work on have meaning to me.	.61

Overall, the mean for the seven items that make up the multi-item variable, characterization, is 3.75 ( $SD = .67$ ). When comparing this overall mean to the means of the previous levels of the affective domain, it continues the declining trend (see Table 15). The percentage of students who *agree* or *strongly agree* with the high-mean item showed a trend on the decline as well. In general, the number of students achieving the level of characterization of a value in a beginning level class may show that the affective domain was more important in these classes than originally thought. At this level of the affective domain, behavior exhibits the internalization of values.

Research Question 1 addressed the various levels of affective domain attained by beginning students who were enrolled in apparel construction/sewing laboratory classes. This was measured by student responses to items on a survey instrument. Items were developed to specifically address the different levels of the affective domain. All measures for the affective domain were on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Overall, the levels were relatively high, hovering around 4 (*agree*). As the hierarchy of the level of affective domain

increased, the overall means in each group of items that represented the four different concepts for each level decreased. Only those levels where factor analysis was calculated to determine reliable latent variables were included in Table 15.

**Table 15. Comparison of Means among Levels of the Affective Domain**

Affective Level	<i>M</i>	<i>SD</i>	<i>n</i>
II. Responding	4.09	.63	155
III. Valuing	3.99	.44	155
IV. Organization	3.91	.63	155
V. Characterization	3.75	.67	155

## Research Question 2

Research Question 2 asked what levels of perceived self-efficacy were attained by beginning students enrolled in apparel construction/sewing laboratory classes. An additional sub-question asked if there were any relationships among the different affective levels and perceived self-efficacy. Self-efficacy was measured by a scale comprised of items that were compiled from previous studies from Colquitt et al. (2000), Garant et al. (1995), Sherer et al. (1982), Stumpf et al. (1987), and Zimmerman et al. (1992). Several items were modified to be specific for sewing or sewing related tasks. Table 16 shows the descriptive statistics for the items that made up the self-efficacy scale, Table 17 contains the final results from the factor analysis on those items, and Table 18 includes the results of the one-tailed Pearson correlations between self-efficacy and each of the five levels of the affective domain.

### Self-Efficacy

Bandura (1994) explained that high self-efficacy can enhance people's accomplishments because self-efficacy links what people believe about their capability to perform on certain tasks and how they will perform on those and other

tasks. Self-efficacy encourages people to meet challenges and to quickly recover and sustain their efforts if they meet with failure.

Supporting high self-efficacy, specifically in the area of sewing tasks, almost 84% of the students marked *agree* or *strongly agree* when responding to item 66 “If I can’t do a sewing task the first time, I keep trying until I can” ( $M = 4.31$ ,  $SD = .77$ ). In what also was a statement of self-efficacy related to challenges was item 62 “I avoid trying to learn new things if they look too difficult for me” ( $M = 4.38$ ,  $SD = .82$ ).

Almost 88% of the respondents disagreed or strongly disagreed with the reverse-coded statement. Item 47 “I get easily frustrated with sewing projects” ( $M = 3.26$ ,  $SD = 1.09$ ) dealt with frustration, a common occurrence in this type of class and a feeling related to self-efficacy. The results from this item were noticeably split, with 22% of the students marking *disagree* or *strongly disagree*, just over 38% of students marking *neutral*, and close to 40% marking *agree* or *strongly agree*. While a little more than twice as many students indicated that they do get easily frustrated, the majority (60%) marked either neutral or that they do not get easily frustrated. In sum, the students in this sample will meet challenges even if things look too difficult, keep trying, and feel neutral with regard to frustration or do not get easily frustrated. Table 16 shows the different items that were used to measure self-efficacy.

Bandura (1994) indicated four sources that could influence self-efficacy: using effort to overcome obstacles, seeing others succeed, verbal persuasion, and a positive mood or emotional state. Perhaps these students have used effort to overcome the obstacles of the sewing tasks or have seen other class members succeed. By the end of the semester (when these students were surveyed), it would

be likely that their own effort or the success of others would have occurred.

Instructors may have provided verbal persuasion to encourage students to complete their projects, an external facilitator of self-efficacy. In addition, the respondents did have positive affect, as evidenced by the marking of *agree* or *strongly agree* on survey items that measured the different levels of the affective domain. That positive affect may have enhanced the student's coping skills facilitating their ability to deal with frustration and keep trying (Ashby et al., 1999). The results of the relationships among self-efficacy and positive affect are shown in Table 18.

**Table 16. Items Related to Self-Efficacy: Descriptive Statistics**

Self-Efficacy Items	<i>M</i>	<i>SD</i>	<i>n</i>
62. I avoid trying to learn new things when they look too difficult for me. (RC)	4.38	.82	141
66. If I can't do a sewing task the first time, I keep trying until I can.	4.31	.77	141
61. If something in class looks too complicated, I do not try very hard at it. (RC)	4.28	.85	141
65. I am able to concentrate on my sewing projects.	4.23	.91	141
57. I give up on things before completing them. (RC)	4.22	.85	141
54. I can motivate myself to do my sewing projects.	4.21	.79	141
55. I am confident of performing well in this class.	4.14	.94	141
30. I give up on projects easily. (RC)	4.12	.96	141
11. I value the ability to solve sewing problems.	4.10	.77	141
64. When I set important class goals for myself, I rarely achieve them. (RC)	4.06	1.08	141
51. I do not seem capable of dealing with most problems that come up in Class. (RC)	4.01	.88	141
67. I finish my sewing projects by the time they are due.	4.01	1.05	141
68. I can work on my sewing projects even though there are distractions.	4.01	.96	141
10. I have realistic goals and a timeline to complete my sewing projects.	3.99	.94	141
52. When unexpected problems occur I don't handle them well. (RC)	3.99	.97	141
45. Failure just makes me try harder.	3.91	.92	141
70. I remember information presented in class and textbook.	3.85	.94	141
31. I am meeting personal goals when I sew.	3.84	.94	141
58. I feel insecure about my ability to do things in class. (RC)	3.84	1.23	141
21. I am developing myself as a person through sewing projects.	3.70	.98	141
44. I lose interest in sewing when the project is too complicated. (RC)	3.59	1.09	141
25. I am confident in my sewing abilities.	3.48	1.08	141
47. I get easily frustrated with sewing projects. (RC)	3.26	1.09	141



Exploratory factor analysis was conducted on the 23 items measuring self-efficacy, using principal component extraction as a single factor solution. All but two of the items loaded higher than .50, indicating that those two items should be removed (item 21 “I am developing myself as a person through sewing projects” and 67 “I finish my sewing projects by the time they are due”). Rerunning exploratory factor analysis as a single factor solution without those two items showed that one additional item (item 68 “I can work on my sewing projects even though there are distractions”) should be removed based on a factor loading of less than .50. The 20 remaining were high loading items, accounting for 41.91% of the variance. The 20 items combined resulted in a highly reliable variable (Cronbach’s *alpha* = .93). Table 17 displays the factor loadings for the items that relate to the concept of self-efficacy.

**Table 17. Items Related to Self-Efficacy: Factor Loadings**

Self-Efficacy Items	Factor Loading
55. I am confident of performing well in this class.	.76
58. I feel insecure about my ability to do things in class. (RC)	.72
57. I give up on things before completing them. (RC)	.71
30. I give up on projects easily. (RC)	.70
54. I can motivate myself to do my sewing projects.	.70
61. If something in class looks too complicated, I do not try very hard at it. (RC)	.70
62. I avoid trying to learn new things when they look too difficult for me. (RC)	.70
25. I am confident in my sewing abilities.	.67
66. If I can't do a sewing task the first time, I keep trying until I can.	.67
52. When unexpected problems occur I don't handle them well. (RC)	.65
65. I am able to concentrate on my sewing projects.	.65
47. I get easily frustrated with sewing projects. (RC)	.64
10. I have realistic goals and a timeline to complete my sewing projects.	.63
51. I do not seem capable of dealing with most problems that come up in Class. (RC)	.63
11. I value the ability to solve sewing problems.	.60
31. I am meeting personal goals when I sew.	.60
64. When I set important class goals for myself, I rarely achieve them. (RC)	.59
70. I remember information presented in class and textbook.	.55
44. I lose interest in sewing when the project is too complicated. (RC)	.53
45. Failure just makes me try harder.	.52

The sub-question of Research Question 2 was: Do affective levels have a relationship to the students' perceived self-efficacy? In response to that research question, Table 18 shows the one-tailed Pearson correlations among self-efficacy and the levels of the affective domain. All of the correlations were significant. The highest correlation was a strong positive relationship between self-efficacy and the organization level (Level IV) of the affective domain ( $r = .75$ ), explaining over half (56.25%) of the variance. Strong positive relationships were also found between self-efficacy and the valuing level (Level III) of the affective domain ( $r = .67$ ),

explaining 44.89% of the variance, and with the responding level (Level II) of the affective domain ( $r = .64$ ), explaining 40.96% of the variance. Bandura (1994) did posit a relationship between levels of self-efficacy and positive emotion. This study strongly supports that relationship at all levels of the affective domain.

**Table 18. Correlations among Self-efficacy and Levels of the Affective Domain**

Pearson Correlations of Affective Domain Levels with Self-Efficacy (1-tailed)	
Organization (Level IV)	.75** N=155
Valuing (Level III)	.67** N=155
Responding (Level II)	.64** N=155
Characterization (Level V)	.56** N=155
Receiving (Level I)	.45** N=155
** $p < .01$	

### Research Question 3

Research Question 3 asked about the relationships among the principle variables of the study, including (a) the students' perceived self-efficacy, (b) how comfortable students feel participating in class, (c) the students' sense of community, (d) the students' overall feelings and general satisfaction with the class, (e) the quality of student work done for the class, and (f) the students' attitude toward the class. Each one of those areas will be discussed in this section. Table 25 presents the one-tailed Pearson correlations between all variables.

#### Comfort in Class Participation

The process of learning is enhanced in a comfortable setting (Knowles et al., 2005). The comfort level in class might reflect a positive “classroom climate” (Cohen,

2007). Cohen (2006) listed the ability to take part in discussions, listen, be reflective, be collaborative, and solve problems as important aspects that are learned in a classroom that has a positive climate. Dallimore et al. (2008) found a positive association between student comfort in class participation to overall student learning and to valuing other student's comments.

Isen (2000) linked attention to the affective domain to helping others. Almost 84% of the students marked *comfortable* or *very comfortable* for item 7 "helping a classmate solve a sewing problem" ( $M = 4.29$ ,  $SD = .84$ ) which directly supported Isen's study. Almost 93% of the students marked *comfortable* or *very comfortable* for item 8 "accepting help from a classmate to solve a sewing problem" ( $M = 4.53$ ,  $SD = .65$ ), which complemented Isen's study. Table 19 summarizes the descriptive statistics for the items that relate to how comfortable students felt in class.

Laboratory classes are more likely to foster conversations among students, especially when compared to lecture-type classes. Adams (2009) findings indicated that students value the social nature of a laboratory class. Almost 87% of the students marked *comfortable* or *very comfortable* for item 9 "talking to classmates during lab" ( $M = 4.43$ ,  $SD = .79$ ). With about the same mean, almost 85% of the respondents marked *comfortable* or *very comfortable* for item 3 "asking a classmate questions" ( $M = 4.42$ ,  $SD = .80$ ). Students also felt more than comfortable "asking the instructor questions" (item 2,  $M = 4.41$ ,  $SD = .88$ ).

Students did feel comfortable "volunteering information" ( $M = 4.00$ ,  $SD = 1.00$ , item 4). This item was not specific; it could refer to volunteering information as a part of a class discussion, which could be the reason that it has a

similar mean as item 1, "participating in class discussions" ( $M = 4.06$ ,  $SD = .93$ ), or it could also refer to volunteering information to a classmate. Cohen (2006) related participating in class discussions to creating a comfortable classroom climate.

**Table 19. Items Related to Comfort in Class Participation: Descriptive Statistics**

While you are in an apparel construction/sewing lab, <u>how comfortable</u> do you feel...	<i>M</i>	<i>SD</i>	<i>n</i>
8. Accepting help from a classmate to solve a sewing problem?	4.53	.65	154
9. Talking to classmates during lab?	4.43	.79	154
3. Asking a classmate questions?	4.42	.80	154
2. Asking the instructor questions?	4.41	.88	154
10. Showing or sharing your work with a classmate?	4.38	.79	154
6. Trying something new?	4.34	.83	154
7. Helping a classmate solve a sewing problem?	4.29	.84	154
1. Participating in class discussions?	4.06	.93	154
5. Making mistakes and fixing them?	4.03	1.01	154
4. Volunteering information?	4.00	1.00	154

Exploratory factor analysis was conducted on the 10 items measuring comfort in class participation. Three factors were initially extracted using principal component extraction and Varimax rotation. Observation of the scree plot indicated that there was only one factor above the best fit line, indicating a single factor solution. One item had a factor loading of less than .50, indicating that it should be removed (item 2 "asking the instructor questions"). In exploratory factor analysis as a single factor solution, the remaining comfort items all had factor loadings of over .50. These factors are listed in Table 20. The factor had an eigenvalue value of 4.21 that accounted for close to half (46.73%) of the variance. The combination of nine items into one measure was internally consistent, with a Cronbach's *alpha* of .85.

**Table 20. Items Related to Comfort in Class Participation: Factor Loadings**

While you are in an apparel construction/sewing lab, how comfortable do you feel...	Factor Loading
8. Accepting help from a classmate to solve a sewing problem?	.72
10. Showing or sharing your work with a classmate?	.72
5. Making mistakes and fixing them?	.71
4. Volunteering information?	.70
6. Trying something new?	.70
1. Participating in class discussions?	.69
7. Helping a classmate solve a sewing problem?	.67
3. Asking a classmate questions?	.65
9. Talking to classmates during lab?	.58

### Sense of Community

The concept of community within a classroom was stressed by Bogue (2002), who characterized community by common caring and shared relationships that are reflected in a common purpose. When reviewing the results for this component of the instrument, there was an indication that the sense of community was felt only mildly by this sample, as the means were all at least slightly lower than the *agree* level. McKinney et al. (2006) found a significant strong positive relationship between sense of community and student performance. Such a strong positive relationship was not demonstrated in this study. The descriptive statistics for the sense of community are summarized in Table 21. For one telling item, “I feel as though I am part of a sewing community” ( $M = 3.16$ ,  $SD = 1.07$ , item 5), the student responses for the item split into rough thirds: almost 27% marked *disagree* or *strongly disagree*, almost 40% marked *neutral* and almost 34% marked *agree* or *strongly agree*. This item cross-loaded during factor analysis and was removed from the multi-item variable.

The students indicated that they cared about people in class, as responses for item 28 included three fifths (61%) of the students marking *agree* or *strongly agree* for “I care about the people I have met in class” ( $M = 3.79$ ,  $SD = .88$ ). However, in some instances, students did not feel reciprocated with attention, as indicated by the lower mean on item 29 “People in class care about me” ( $M = 3.54$ ,  $SD = .93$ ). Only 45% of the respondents marked *agree* or *strongly agree* for item 29.

While 28% of the respondents marked *neutral*, 65% of the respondents marked *agree* or *strongly agree* for item 3 “I enjoy sharing my sewing interests with my classmates” ( $M = 3.90$ ,  $SD = .93$ ). This item mean is almost at the *agree* level, and would seem to be a precursor for a sense of community. Another item had the same mean ( $M = 3.90$ ,  $SD = 1.04$ ), but it was reverse coded and may have caused confusion among students. This was item 27 “I don’t want to give advice about sewing or anything else.” It was an item that failed to load over .50 in factor analysis, so it was omitted.

**Table 21. Items Related to Community: Descriptive Statistics**

Items Related to Community	<i>M</i>	<i>SD</i>	<i>n</i>
3. I enjoy sharing my sewing interests with my classmates.	3.90	.93	145
27. I don't want to give advice about sewing or anything else. (RC)	3.90	1.04	145
28. I care about the people I have met in class.	3.79	.88	145
33. I don't want to hear about any of my classmates' problems. (RC)	3.77	1.07	145
29. People in class care about me.	3.54	.93	145
2. I communicate with a classmate(s) outside of class.	3.46	1.33	145
5. I feel as though I am part of a sewing community.	3.16	1.07	145

Exploratory factor analysis was conducted on the seven items measuring community, using principal component extraction with Varimax rotation. Two factors were initially extracted, but an analysis of the component matrix showed one cross loading item one item with a factor loading of less than .50. The scree plot revealed

that there was only one factor that was above the best fit line. Omitting items 5 “I feel as though I am part of a sewing community” and item 27 “I don’t want to give advice about sewing or anything else” and rerunning the factor analysis as a single factor solution resulted in all five items loading on the single factor higher than .50. These factors are presented in Table 22. The eigenvalue was 2.75 and explained 54.94% of the variance. The five items combined had an acceptable Cronbach’s *alpha* of .77.

**Table 22. Items Related to Community: Factor Loadings**

Items Related to Community	Factor Loading
29. People in class care about me.	.86
28. I care about the people I have met in class.	.83
2. I communicate with a classmate(s) outside of class.	.74
3. I enjoy sharing my sewing interests with my classmates.	.66
33. I don’t want to hear about any of my classmates’ problems. (RC)	.58

### **Overall Feelings and General Satisfaction With the Class**

The items for this section were originally inspired by Huang’s (2005) scale to measure hedonic aspects of shopping on the web. The items were supplemented with items from a university student satisfaction survey. Positive feelings and satisfaction with a class can contribute to a general positive affect. Ashby et al. (1999) and Isen (2001) both found connections that positive affects had on cognitive processing. Practical outcomes included enhanced decision making capabilities and creative problem solving.

When looking at overall feelings and general satisfaction with the class, summarized in Table 23, results from item 3 “overall this class is interesting”



( $M = 4.42$ ,  $SD = .72$ ) showed that over 90% of the students marked *agree* or *strongly agree*. This is consistent with item 8 “I am interested in class” ( $M = 4.30$ ,  $SD = .74$ ), an item incorporated in the responding level (Level II) of the affective domain, for which almost 90% of the students marked *agree* or *strongly agree*.

On the opposite end of the spectrum, a reverse-coded item 2 “overall this class is frustrating” still had a lower mean ( $M = 3.56$ ,  $SD = 1.22$ ), in-between *neutral* and *agree*. Many students in their written comments indicated how they were frustrated in class, but nevertheless enjoyed the class or the activity of sewing.

**Table 23. Items Related to Overall Feelings and General Satisfaction: Descriptive Statistics**

Items Related to Overall Feelings and General Satisfaction	<i>M</i>	<i>SD</i>	<i>n</i>
3. Overall this class is interesting.	4.42	.75	149
1. Overall this class is enjoyable.	4.38	.83	149
56. I learned a lot in this class.	4.37	.82	149
43. Overall this was a good course.	4.27	.84	149
4. Overall this class is fun.	4.24	.88	149
6. Overall this class is satisfying.	4.23	.91	149
60. The content of this class is meaningful for me.	4.12	.81	149
2. Overall this class is frustrating. (RC)	3.44	1.22	149

A factor analysis was conducted for the nine items relating to the overall feelings about and satisfaction with the class. This scale had been primarily based upon Huang’s (2005) scale (which had a reliability of .87 and explained 70% of the variance) to measure hedonic levels of consumers. The results of this study were comparable. All items loaded onto one factor and the entire group of factor loadings exceeded .50. The eigenvalue was 5.71 and explained 63.46% of the variance. The 9 items combined had high reliability (Cronbach’s  $\alpha = .92$ ). Table 24 presents the factor loadings for the items in this section.

**Table 24. Items Related to Overall Feelings and General Satisfaction: Factor Loadings**

Items Related to Overall Feelings and General Satisfaction	Factor Loading
1. Overall this class is enjoyable.	.88
6. Overall this class is satisfying.	.88
3. Overall this class is interesting.	.87
43. Overall this was a good course.	.87
4. Overall this class is fun.	.86
60. The content of this class is meaningful for me.	.81
56. I learned a lot in this class.	.72
5. Overall this class is boring. (RC)	.69
2. Overall this class is frustrating. (RC)	.53

### Quality of Work Done for Class

This study did not collect grade information from students or ask any identifying information that would be able to connect an individual survey with a grade. One outcome of a class is the quality of work produced. Students were asked to reflect upon the quality of their own work. A six-point scale ranging from *poor, a lot below average, a little below average, a little above average, a lot above average, to excellent* was used for this section of the instrument. This was a single item measure ( $M = 4.25$ ,  $SD = 1.06$ ). Overall, students rated the quality of their work slightly above *a little above average*. The general self-efficacy of this sample was high and probably influenced the answers in this section. Students may not be objective evaluators of their own work. The Pearson correlation (see Table 25) between self-efficacy and quality of work was  $r = .55$  ( $p < .01$ ), explaining only 30.25% of the variance.

An open-ended question invited the participants to reflect and comment about “what influenced you to describe the quality of your work in this way.” One hundred-

sixteen of the 155, or virtually three-quarters of the total participants, commented in this section. The written comments exhibited a few themes. One theme was persistence, which was expressed through “trying hard,” “making mistakes,” or “working diligently.” Several comments indicated that the students were motivated. Another theme somewhat related to persistence dealt with time issues. This theme had two major components: (a) spending the time necessary to justify a good quality of work, and (b) not having enough time (because of class time restraints or other time factors such as taking too many classes or working) to justify a poorer quality of work.

Many used inexperience as a reason for either good (pretty good because “I am only beginning to sew”) or poor quality work (one student commented that “sub-par” work is expected in a beginning class). Some students indicated that they had previous sewing experience, and these students rated themselves as above average to excellent. Their comments reflected a feeling of being over-qualified for a beginning class. Some students also used external instructor feedback or grades earned to explain why they had rated their quality of work as *above average* to *excellent*.

### **Attitude toward the Class**

Ashby et al. (1999) and Isen (2001) each wrote about the positive relationship of affect and motivation, solving problems, and thinking creatively. Bandura (1994) considered a positive attitude as facilitating perceived self-efficacy. Students were asked to self-report their current attitude toward the class. A six-point scale ranging from *very negative*, *somewhat negative*, *a little negative*, *a little positive*, *somewhat*

*positive*, to *very positive* was used for this section of the instrument. This was also a single item measure ( $M = 5.16$ ,  $SD = 1.25$ ). The attitude of the majority of the students was above *somewhat positive*.

Another open-ended question invited reflection and comments regarding “what influenced you to describe your attitude in this way.” One hundred-five of the 155 total participants (a little over two-thirds) commented in this section. The main theme that emerged from these comments was related to enjoyment of the class: the majority of students mentioned the word “enjoy,” many participants “loved” or “liked” the class or sewing in general, and many mentioned how much “fun” they had. Many students mentioned that they had a positive attitude. Some students commented about meeting/making friends in class or the support of friends/classmates. All of these emotions relate to the affective domain.

A second, but notable theme included students mentioning how much they learned in class. The instructors were mentioned by several students across all the schools, both in a positive and negative light. Not being able to see demonstrations because so many people were in class was mentioned by one student as a negative component of the class.

### **Relationships Among Variables**

In order to answer the second part of Research Question 3, examination of the relationships among the variables other than those related to the affective domain, a Pearson correlation (1-tailed) was run between each of the research variables. Table 25 summarizes the results, all of which are significant. The strongest correlation is a strong positive relationship between the student's overall

feelings and general satisfaction with the class and the student's current attitude toward the class ( $r = .78$ ), explaining over half (60.84%) of the variance. It makes sense that these two areas were related, as they both measure attitude toward the class. This was the strongest correlation found among all of the variables tested.

There were several moderate correlations, primarily the correlations between self-efficacy and the other variables. For example, self-efficacy had a moderately strong positive relationship between overall feelings and general satisfaction with the class ( $r = .58$ ), and between comfort ( $r = .56$ ), and between quality of the student's own work ( $r = .55$ ). These relationships do support Bandura's (1997) theory that there are relationships between positive affect (for this study, overall feelings and general satisfaction with the class) and self-efficacy. Students' reflection upon the quality of their work was indirectly addressed by Bandura (1982). Students may perceive the quality of their work as high if their self-efficacy is high, but that does not necessarily mean that they are proficient in a task.

Comfort may have a relationship with the coping skills described by Bandura (1997). Students may feel more comfortable if they feel they are able to cope with their tasks. The correlation between comfort in participating in class and self-efficacy was moderate ( $r = .56$ ). Self-efficacy also had a low correlation with sense of community ( $r = .29$ ), perhaps because respondent sense of community in the class was skewed toward lower scores and did not allow for testing across a range of normatively distributed responses.

A moderate positive relationship was also discovered between comfort and sense of community ( $r = .49$ ), supporting the findings of McKinney et al. (2006), who

looked at the aspects of community and other factors that are also related to a feeling of comfort (as well as a sense of community), such as connections to others in class (encouragement to meet other people in class), a feeling of belonging (acknowledgement of students in class) and safety (encouragement to work with small groups).

**Table 25. Correlations Among Variables**

Pearson Correlations (1-tailed)	Comfort	Sense	Quality	Attitude	Self-efficacy	Overall/ Satisf.
Comfort in Participating	1	.49**	.38**	.37**	.56**	.44**
	N=155	N=155	N=153	N=152	N=155	N=155
Sense of Community	.49**	1	.26**	.26**	.29**	.36**
	N=155	N=155	N=153	N=152	N=155	N=155
Quality of own work	.38**	.26**	1	.35**	.55**	.40**
	N=153	N=153	N=153	N=152	N=153	N=153
Attitude toward class	.37**	.26**	.35**	1	.48**	.78**
	N=152	N=152	N=152	N=152	N=152	N=152
Self-efficacy	.56**	.29**	.55**	.48**	1	.58**
	N=155	N=155	N=153	N=152	N=155	N=155
Overall Feelings and General Satisfaction with the class	.44**	.36**	.40**	.78**	.58**	1
	N=155	N=155	N=153	N=152	N=155	N=155

\*\* $p < .01$

### Instructor-Related Comments by Students

The final section of the survey instrument was an empty box with the comment, "Your comments will be appreciated." Twenty-six percent (41) of the 155 respondents commented in the open-ended section on the last page of the instrument. The main theme (one-fifth of the comments) related to the quality of the teacher and emerged as a main theme from this section. The students primarily used superlatives such as great, awesome, and amazing.

**Questions for Instructors**

While students were responding to the survey instrument, each instructor was asked about enrollment and number of sewing machines available and in working order. The rationale for this was that students may have a less than favorable attitude if functioning equipment is not available to them. Enrollment levels did not always match the number of students in class on the day of the survey. Classes for which the day of the survey was their final day had a closer match with students in attendance and students enrolled. This researcher's experience in teaching in the California community college system has been that students are allowed to drop until the 14<sup>th</sup> week of an 18 week semester, and it is common to have students drop classes.

Only four instructors (representing 3 different schools) out of 13 total indicated that there were not enough machines for the number of students enrolled. One instructor lamented that at the very beginning of the class there were three students to a machine. Overall the instructors indicated that machines were serviced in a timely manner if they did break down.

## CHAPTER 5. SUMMARY AND CONCLUSIONS

This chapter presents a review of the study description, an overview of the review of literature, research questions, theoretical framework, instrument design, description of the sample, and analysis of the data. It is brought to a close with assumptions, limitations, conclusions, implications for practice and theory, and suggestions for further research.

### Description of the Study

This study was an initial attempt to understand the type of learning that occurs in apparel construction/sewing laboratory classes. The focus was on students who were enrolled in beginning-level classes in community colleges within Los Angeles and Ventura counties in southern California. The primary purposes of this exploratory study were to develop scales that would measure the multiple levels of the affective domain and perceived self-efficacy of the students participating in class. The relationship between the scales was investigated.

The five levels of the affective domain were defined by Bloom and his associates in *Handbook II: Affective Domain of the Taxonomy of Educational Objectives* (Krathwohl et al., 1964). The descriptions of each level were used as a basis for the researcher to construct the majority of the items for the scales designed to measure each level. Understanding affective components of learning is essential for improving and developing learning environments. Ashby et al. (1999) found that a positive affect may enhance coping skills as well as influence “creative problem solving” (1999, p. 529). A positive affect is linked to engagement (Krathwohl et al., 1964) and engagement is linked to increased learning (Beard et al., 2007).



Self-efficacy is the perception a person has of his or her ability to do a task (Bandura, 1994, 1997). Bandura's work (1994, 1997) and the work of other scholars (Colquitt et al., 2000; Garant et al., 1995; Sherer et al., 1982; Stumpf et al., 1987; Zimmerman et al., 1992) laid the foundation for the items used in the scale developed by the researcher to measure self-efficacy. Bandura noted that positive emotions increased people's levels of self-efficacy (Bandura, 1994) and enhance cognitive processes that influence goal setting and persistence in achieving the goals (Bandura, 1993). In contrast, negative emotions influenced people's coping skills and reduced their level of self-efficacy (Bandura, 1994). Bandura (1982) also explained that, according to social learning theory, if self-efficacy is low a person's behavior may be ineffective, even if the person knows what to do. A positive affect should influence a person's self-efficacy and lead to more effective behavior.

Also developed for this study were scales to measure the students' comfort in class participation and sense of community with primarily unique items specifically created for this instrument by the researcher. Cohen (2009) argued that a comfortable class climate supports learning. Likewise, McKinney et al. (2006) found learning was enhanced when students felt a sense of community.

Additionally, motivations for enrollment, quality of work, and attitude toward the class were assessed. Several scholars had looked at motivations for sewing (Drohan, 1987; Lutz, 1957; Ostapovitch, 1961), and it was reasonable to replicate parts of their studies to compare any similarities or differences in motivations for sewing. Quality of work and attitude toward the class were examined in order to gain a more complete picture of the students' perspective.

### **Overview of Review of Literature**

A review of literature in a variety of fields including, but not limited to, home economics (now called family and consumer sciences), leisure studies, women's studies, psychology, the arts, sciences, and education contributed to the development of scales to assess various outcomes of students enrolled in apparel construction/sewing laboratory classes.

The home economics movement played a significant role in the offering of sewing classes for adults. There were sewing schools prior to the establishment of home economics as a field of study. As a part of an organized discipline, sewing classes grew in higher education as the Land Grant colleges expanded. As clothing items became mass produced, the teaching of sewing skills was continually questioned even by those in the field (Brown, 1923; Potter, 1926).

Several studies supported sewing courses because (a) the skills are the foundation to more advanced design skills (Brandes & Garner, 1997), (b) a basic understanding of apparel construction helps those who will need to evaluate items prior to the sourcing or buying of goods (Loker, 1987), and (c) these classes can foster critical thinking skills (Montgomery, 2006; Quilling, 2006) and creativity and problem solving skills (Loker, 1987; Werden, 1960).

Bloom's taxonomy of the cognitive domain has been used by educators to evaluate learning outcomes (Anderson et al., 2001; Bloom et al., 1984; Krathwohl, 2002; Krathwohl et al., 1964). The taxonomy for the cognitive domain includes factual knowledge that is acquired through remembering, understanding, applying, analyzing, evaluating, and creating (Anderson et al., 2001). The California

community college Family and Consumer Sciences program plan (California, 2009) laid out primarily cognitive goals for classes in beginning sewing. This plan was fully outlined in Chapter 1.

The taxonomy for the affective domain, designed “to give direction to the learning process and to determine the nature of the evidence to be used in appraising the effects of learning experiences” (Krathwohl et al., 1964, p. 4), includes the attitudes and feelings of expected behaviors at the levels of receiving, responding, valuing, organizing, and characterizing values. Krathwohl et al. (1964, pp. 176-185) laid out five hierarchical levels, indicating that while the categories were arbitrary, they were nonetheless a continuum from 1 (lowest) to 5 (highest):

1. Receiving, Level I, the lowest level, in which the student is aware and willing to attend to class, is “almost a cognitive behaviour” (p. 176), but the affective domain relates to feelings of willingness to learn, not recall of facts;
2. Responding, Level II, a slightly higher level in which the student is willing to and finds satisfaction in responding in class;
3. Valuing, Level III, is a level characterized by internalization of a set of values modeled in class and valuing of the subject;
4. Organization, Level IV, relies on the student conceptualizing the values learned in class and organizing them into a system, and finally
5. Characterization by a value or value complex, Level V, whereby the student has a philosophy of life that includes the internalized values.

Bryan et al. (1996) suggested that positive affect increased learning. Bolin et al. (2005) linked “the scholarly growth of college students” to educators who taught “within the affective domain” (2005, p. 154). Beard et al. (2007) placed a focus on the complete range of emotions in the affective domain as crucial in understanding the “whole” student in higher education, allowing a shift in learning from a transmission process to an engagement process. Engagement, according to Krathwohl et al. (1964), would occur at the responding, or second, level of the affective domain. Attention to the affective domain has been linked to creativity in problem solving (Ashby et al., 1999; Bryan et al., 1996), increasing mastery, memory, learning (Bryan et al., 1996), helping, generosity, and motivation (Isen, 2000). Additionally, several scholars (Burgi-Golub, 1997; Graham, 2003; Littledyke, 2008) linked educating in the affective domain to lasting moral values.

Bandura’s work (1994, 1997), explained that self-efficacy was the perception of a person’s ability to do a task. For Bandura, the “cognitive processes” (Bandura, 1977, p. 192, 1993, p. 118), are of primary importance in achieving self-efficacy. However, adverse affective processes can influence the cognitive processes and diminish self-efficacy. Colquitt et al. (2000) noted that self-efficacy motivated people to learn and is related positively to job performance and “persistence in task achievement” (p. 680). Bandura (1993) saw self-efficacy as a contributor to accomplishments in the academic realm and a predictor of positive attitudes.

Dallimore et al. (2008) found that learning was positively related to student’s comfort in class discussions. The social support that Cohen (2009) suggested was a part of comfort in a classroom setting that Ford and Procidano (1990) found to

correlate with undergraduate self-actualization. Closely related to comfort in class participation is a sense of community. Bogue (2002) and McKinney et al. (2006) related that a college classroom provided a source for a feeling of community. Tinto (1997) supported a link between learning communities in a university classroom to engagement in the classroom, leading to deeper and richer learning. As Beard et al. (2007) suggested, students' learning is enhanced through engagement in a classroom.

### **Research Questions**

The two overarching themes of levels of the affective domain and self-efficacy within the classroom prompted the emergence of two of the three research questions. The third research question emerged from the supporting areas that contribute to attitudes and feelings of students involved in beginning sewing classes. The research questions guided the development of the scales and the analysis of the data. The three research questions were:

1. What are the levels of affective domain attained by beginning students enrolled in apparel construction/sewing laboratory classes?
2. What are the levels of perceived self-efficacy attained by beginning students enrolled in apparel construction/sewing laboratory classes?
  - 2.1 Do affective levels have a relationship to the students' perceived self-efficacy?
3. What are the relationships among
  - 3.1 students' perceived self-efficacy,
  - 3.2 how comfortable students feel participating in class,

- 3.3 students' sense of community,
- 3.4 students' overall feelings and general satisfaction with the class,
- 3.5 quality of student work done for the class, and
- 3.6 students' attitude toward the class?

### **Theoretical Framework**

A framework to accomplish the purposes and address the research questions is provided by Illeris (2003a, 2003b), who offered a two-component model of adult learning theory that is applicable to learning in the area of apparel construction/ sewing laboratory classes. His model, on one level, explained individual learning by connecting the affective with the cognitive domains. New learning makes contact with prior learning, making adult learning “additive” (2003b, p. 171). A second equally weighted and simultaneous component of learning according to Illeris is the social aspect of learning; learning takes place in a social environment. The interaction of the social with the internal led Illeris to state that “both processes must be actively involved if any learning is to take place (2003a, p. 398). The cognitive aspects of apparel construction/ sewing laboratory classes have already been established (California, 2009). The social interaction in apparel construction/sewing laboratory classes is fostered by interpersonal communication, participation, helping, and cooperation (Illeris, 2003a), which could engender a sense of community. Adams (2009) reported that valuable social interaction between students occurs in a laboratory class. The missing piece to increased learning is the affective aspect.

Csikszentmihalyi's (1999) concept of flow, in which those who are in a state of "flow" feel as though they are being carried away by a current of energy, is pertinent.

Blood (2006) suggested that flow may be useful in studies that explore textiles and clothing as it relates to creativity. The organization level (Level IV) of the affective domain specifically relates to creative areas, as the higher levels of the affective domain involve students in relating and synthesizing values (Linn & Miller, 2005). The creative process was the latent concept for the multi-item variable "organization" (see Table 12). Additional areas that relate to creativity at the organization level are aesthetic values described by DeLong (2007), Fiore et al. (1996a), and Rehm (1998). Facilitation of aesthetic values leads to a meaningful and rich learning environment (Peterat, 1999). The findings of this study indicate that some students were achieving the higher levels of the affective domain, as evidenced by an overall mean of 3.91 ( $SD = .63$ ) for the multi-item variable of organization (see Table 15).

### **Instrument Design**

After IRB and school approvals, the four-page self-report instrument (see Appendix D) was distributed. All participants were 18 years or older. Participants were first asked demographic information (including age, gender, ethnicity, number of units completed, and sewing background). Motivation for enrolling in the class was the next query, followed by a list of possible motivations. Drohan (1987), Lutz (1957), and Ostapovitch (1961) all studied some aspect of motivation for sewing. Items for this instrument were replicated from their research studies with the addition of "It is a required course for my program/major" plus two blank lines for respondents to fill in motivational factors not listed. Respondents were asked to rate how much each motivational factor influenced their enrollment on a 5-point scale (*not at all, a little, somewhat, greatly, absolutely*).

In the following section the participant's comfort level in various aspects of participation in class was evaluated by a 5-point scale (*very uncomfortable* to *very comfortable*). Items in this section were primarily created for this instrument by the researcher. Comfort in participation can address affective measures as well as self-efficacy measures.

The second and third pages of the instrument included two blocks of statements, each measured with a 5-point scale (*strongly disagree* to *strongly agree*). The first block of statements was a mixture of items crafted to measure different levels of the affective domain, perceived self-efficacy, sense of community, and overall feelings and general satisfaction with the class. The items related to measuring levels of the affective domain were primarily unique to this instrument and created by the researcher. The items related to measuring the levels of perceived self-efficacy were primarily patterned from the work of several scholars (Colquitt et al., 2000; Garant et al., 1995; Sherer et al., 1982; Stumpf et al., 1987; Zimmerman et al., 1992). The second block of statements was designed to measure overall feelings and general satisfaction with the class, primarily based upon Huang's (2005) work. Some items were reverse-coded in order to reduce the risk of a response set.

The last page of the instrument had three sections. Each of the first two sections was a single-item measure and each measure was followed by an empty space and an invitation to comment as to what influenced the student's response. The first section asked participants to rate their quality of work for the class on a 6-point scale of *poor*, *a lot below average*, *a little below average*, *a little above average*, *a lot above average*, or *excellent*. The next section asked participants to



describe their current attitude in class, on a 6-point scale of *very negative, somewhat negative, a little negative, a little positive, somewhat positive, or very positive*. Last on this page was a boxed space inviting any comments.

All self-report surveys were administered by the researcher at the end of the semester-length term in spring 2009. An incentive of Smartees® candies was offered to all students, whether or not they chose to participate. Participants completed the survey within 10-15 minutes. From the 255 students enrolled, 155 useable surveys were collected from 13 classes at seven different community colleges in Los Angeles and Ventura Counties, giving a 61% response rate.

### **Description of the Sample**

The purposive sample was drawn from students enrolled in beginning apparel construction/sewing laboratory classes offered through California community colleges. To assure consistency across the classes surveyed, beginning apparel construction/sewing laboratory classes were chosen by virtue of their ability to transfer as a beginning apparel construction class to California State University, Northridge using the assist.org website, which uses official and up-to-date information about articulation of courses from California community colleges to California four-year public institutions (University of California and California State University systems).

The typical student who responded to the instrument was a 26-year-old female, European/White American, Asian, or Asian American, who had completed 60 college units but had no sewing experience. The sample was substantially skewed toward female participants. Asian or Asian American participants were over-

represented compared to the ethnic distribution of students in the community colleges that made up the sample.

The majority (77.4%) of the students had no formal training in sewing, and less than half of the respondents (41.3%) had no informal experience sewing. The primary motivation for taking the class was that the participants wanted to learn how to sew ( $M = 4.49$ ,  $SD = .95$ ) and also wanted to create original items for themselves, others, or their home ( $M = 4.48$ ,  $SD = .98$ ). These motivational reasons differed from those found in previous studies. For example, wanting to learn to sew was not a primary reason to take classes in studies by Drohan (1987) or Lutz (1957). The creative aspect, however, mirrors Drohan's (1987) and Ostapovitch's (1961) findings that creativity was a motivation for people who wanted to take a class or sew at home.

### **Analysis of the Data**

SPSS 17 was used to analyze the data. Descriptive statistics were used. Factor analysis was the primary statistical procedure used to create a multi-item variable that had a meaningful underlying construct. Cronbach's *alpha* was used to determine reliability. All scales were valid and reliable. Pearson correlations were used to reveal relationships among the variables of how comfortable students felt participating in class, the students' sense of community, the students overall feelings and general satisfaction with the class, the quality of student work done for the class and the students' attitude toward the class.

### Research Question 1

Research Question 1 addressed the various levels of affective domain attained by beginning students who were enrolled in apparel construction/sewing laboratory classes. Overall, the levels were relatively high, hovering around 4 (*agree*) across almost all items. The higher levels of the affective domain (Level IV organization and Level V characterization) included a few items that measured below 4 (*agree*). All measures for the affective domain were on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). As the hierarchy of affective domain increased, the overall means decreased slightly (see Table 16). It appears that a majority of the students attained the lower levels of the affective domain (receiving, responding, and valuing). Even though the means begin to drop with the organization and characterization levels, they remained above the neutral level, indicating that some of the students reached the higher levels of the affective domain.

The first level of the affective domain is receiving. Responses to the two items measuring attending class regularly ( $M = 4.46$ ,  $SD = .82$ ) and following directions to complete a project ( $M = 4.16$ ,  $SD = .85$ ) indicated that overall the participants had fairly high levels of receiving or attending to class. The participants had the highest means for this level of affective involvement. Almost 90% of the students marked *agree* or *strongly agree* when responding to the item measuring whether they attended class regularly, an indication that students attained the receiving level of the affective domain because it was operationalized as the behavior of attending

class. Being in class would be the first step to attending to the things going on in class.

The overall mean for responding, the second level of the affective domain, was 4.09 ( $SD = .63$ ). The central concept of the responding level is showing interest in class. The factor explained 60.84% of the variance. Reliability of the four items in the factor (Cronbach's *alpha*) was .78, indicating low but acceptable reliability.

The overall mean for valuing, the third level of the affective domain, was 3.99 ( $SD = .44$ ), a very slight decrease from the responding level, but still hovering at the *agree* level. This mean is quite close to *agree* on the scale and indicates that the participants do value the class and the skills they learned. This level also included enjoyment of aspects of the class. Six of the ten items at this level formed one factor. The factor accounted for 44.05% of the variance. Cronbach's *alpha* of .74 indicated low but acceptable reliability.

The overall mean for organization, the fourth level of the affective domain, was 3.91 ( $SD = .63$ ), a very slight decrease from the mean of the valuing level factor. The mean was very close to *agree* on the scale and is an indication that the students were conceptualizing the values from class and organizing them into a system. Ten of the original twelve items formed one factor, which explained 49.48% of the variance. The ten items together had a Cronbach's *alpha* of .89, approaching high reliability.

The highest level of the affective domain, the characterization level, had an overall mean of 3.75 ( $SD = .67$ ), once again continuing a downward trend in mean score when compared to the previous affective level score. This level of the affective

domain indicates that values had been internalized and would likely be reflected in the behavior of the individual. The factor explained 49.48% of the variance. The seven items together had a moderate reliability (Cronbach's *alpha*) of .83.

The scale for measuring the affective domain above the receiving level (which was measured by two single items) was factor analyzed to verify that items conceptually supported each level. Reliabilities ranged from low to moderate. At each level of the affective domain above receiving, the factors explained about half of the variance (from 44.05% to 60.84%). Because no scales were found that have been designed to measure the different levels of the affective domain, comparisons for this study cannot be made.

## **Research Question 2**

Research Question 2 addressed the levels of perceived self-efficacy attained by beginning students enrolled in apparel construction/sewing laboratory classes. First a factor analysis was run on 23 items that originally comprised the self-efficacy scale. Factor analysis indicated that 20 of the items formed a cohesive factor. The factor accounted for 41.91% of the variance. The 20 items combined resulted in a highly reliable variable (Cronbach's *alpha* = .93). Just over half (11/20) of the means recorded for the factor items were at the *agree* mark or higher (see Table 16), three of the remaining nine items were close to *agree*, and the rest were all above *neutral*. The sample of students reported a fairly high degree of self-efficacy.

The second part of Research Question 2 addressed the relationships between the affective levels and the students' perceived self-efficacy. One-tailed Pearson correlations were conducted. Self-efficacy correlated with all of the levels of

the affective domain. The highest correlation was between self-efficacy and organization (Level IV),  $r = .75$ , indicating a strong positive relationship. Also discovered were strong positive correlations with valuing (Level III),  $r = .67$ , and responding (Level II),  $r = .64$ .

These results suggest that at an affective level of conceptualization of values (organization) perceived levels of self-efficacy are also high. As the levels of affective domain increased the levels of perceived self-efficacy also increased. This makes sense because as the positive affective aspects of engagement increase, so does level of perceived self-efficacy. Results from Research Question 1 indicated that the majority of the students attained an affective level of valuing and some reached organization. The findings may support Ashby et al. (1999) who found that a positive affect may enhance coping skills that are necessary for self-efficacy. Coping skills were not measured in this study, however. Correlation does not mean causation, but this is an area to investigate further.

### **Research Question 3**

Research Question 3 explored relationships among the main variables. Specifically, what are the relationships among: (a) students' perceived self-efficacy, (b) how comfortable students feel participating in class, (c) students' sense of community, (d) students' overall feelings and general satisfaction with the class, (e) quality of student work done for the class, and (f) students' attitude toward the class?

Factor analyses were conducted on items assessing how comfortable students felt participating in class, students' sense of community, and overall feelings and general satisfaction with the class. The factor analysis of items

assessing how comfortable students feel participating in class indicated that 9 of the 10 items combined into one factor that explained 46.73% of the variance. The combination of items into one measure had moderate internal consistency with a Cronbach's *alpha* of .85. All of the means recorded for the items in the one factor of comfort were measured at *agree* or above, indicating that the students in this sample were comfortable in class participation.

The concept of community measure had 5 of the 7 items forming one factor explaining 54.94% of the variance. The Cronbach's *alpha* was .77, indicating low but acceptable reliability. A sense of community was felt only mildly in this sample. While all of the means in the multi-item factor reached *neutral* or higher, none of the means reached the *agree* level.

Overall feelings and general satisfaction with the class were measured with items from the Iowa State University Student Satisfaction survey and items modified from Huang's (2005) hedonic scale. All items loaded onto one factor that explained 63.46% of the variance. The 9 items combined had high reliability (Cronbach's *alpha* = .92). These results compared favorably to Huang's study, where 70% of the variance was explained and the reliability was .87. Only one item on this scale had a mean of less than the *agree* level, an indication that participants in this sample were satisfied with their class and had positive feelings overall.

The reflective question about quality of student work ( $M = 4.25$ ,  $SD = 1.06$ ) was rated at slightly *above average*. Current attitude in the class ( $M = 5.16$ ,  $SD = 1.25$ ) was rated at slightly above *somewhat positive*. Each of these was based on 6-

point scales with no *neutral* category. These were both used as single-item measures.

Pearson correlations were run between each of the research variables. The highest was a strong positive correlation,  $r = .78$ ,  $p$  (one-tailed)  $< .01$ , between satisfaction with the class and attitude toward the class. This is reasonable, because if a student is highly satisfied with the class, it is likely that the student will have a better attitude toward the class. The other correlations were moderate in nature: between self-efficacy and satisfaction with the class ( $r = .58$ ), between self-efficacy and comfort ( $r = .56$ ), between self-efficacy and quality of own work ( $r = .55$ ), between comfort and sense of community ( $r = .49$ ), and between self-efficacy and attitude toward the class ( $r = .48$ ). A low correlation ( $r = .29$ ) was found between self-efficacy and sense of community. All were significant, all  $ps$  (one-tailed)  $< .01$ .

Overall, self-efficacy correlated moderately with all of the other variables except sense of community, where a low correlation was recorded. All of these correlations are positive, indicating that as the measure of one variable goes up so does the measure of the second variable. No causal relationships can be inferred. In congruence with Bandura's (1993) findings that perceived self-efficacy influences affective processes in academic settings, feelings of efficacy are likely to enhance attitude toward the class, although it was only a moderate relationship in this sample.

### **Assumptions**

The researcher must assume that participants answered honestly and completely. Self-report instruments are never free from the fact that the respondents



may not have been honest in their responses. Anonymous surveys tend to increase honesty (Gay, Mills, & Airasian, 2006; Linn & Miller, 2005). A response set is another common problem whereby a respondent has a tendency to “continually respond in a particular way” (Gay et al., 2006, p. 132). This would happen if, for example, a person continually answered “*agree*” to all items, with a belief that the answer was what the researchers were looking for. Linn and Miller (2005) suggested a balance of positive and negative statements in order to reduce a response set. Several reverse-coded items were interspersed throughout the survey to discourage response sets.

### **Limitations**

This was a fairly small sample. The instrument was administered in a narrow geographic area and only to community college classes running in the spring semester, 2009. This will limit the external validity and ability to generalize to the rest of the population of apparel construction/sewing laboratory classes in the U.S.

The instrument was easy to administer; however, it was time consuming because of travel to each school. Timing was difficult because classes at different schools frequently met at overlapping, if not the same times, so to be able to administer the instrument at the end of the term for all institutions posed scheduling challenges. Focus groups or interviews would have had similar limitations in terms of time commitments and scheduling conflicts.

The choice was made not to use an online version of the instrument because of the potential for a low response rate. Most students are stressed near the end of the term, and it is doubtful that they would take extra time to fill out a survey even for

extra credit. Two instructors gave extra points on the spot when they saw that the students were reluctant to participate. The extra points boosted the response rate. In general, almost all of the classes had a few people who declined to participate. It is believed that having the researcher at the site boosted participation.

This study was limited in that none of the items in this instrument asked about the instructor. This was intentional because the researcher did not want to alienate any instructor. The purpose was to measure the participants, not the instructor. The participants were free to mention the instructor on the final page of the instrument, and several did without any prompting. There is no doubt that the instructor plays a pivotal role in the classroom. Every instructor's personality and method of teaching provides an opportunity to clash with or compliment a student's personality and method of learning.

This study may have been limited by the reading level of those participants in the community college classes; however, completion of the instrument was voluntary, and participants were able to decline involvement with no ill effects. Only one student expressed poor understanding of the English language when declining to participate.

### **Implications for Practice and Theory**

According to Illeris' (2003a, 2003b) adult learning theory, the affective domain works with the cognitive domain when adults internalize knowledge. An apparel construction/sewing laboratory provides an environment where this learning theory can be tested. Illeris's theory was supported by the results of this study, which indicated that at least some students did internalize knowledge because some

students reached high scores on the higher level affective domains of organization and characterization.

In addition to cognitive outcomes, such as the ones outlined by the California community college family and consumer sciences program plan for beginning sewing (California, 2009), an educator can teach “within the affective domain” (Bolin et al., 2005) to complement and enhance the cognitive outcomes. Bryan et al. (1996) supported the notion of increased learning through the affective domain, and the present results support their assumption. Self-efficacy was also seen as a predictor of positive attitudes and positive academic achievements in accordance with Bandura (1993).

A laboratory-type class invites more social interaction and the possibility of peer learning (see Topping, 2005) than a lecture-type class. The social interaction aspect of Illeris’ (2003a, 2003b) theory could be tested in this type of class. A comfortable class climate may enhance student learning (Cohen, 2009). Dallimore et al. (2008) found learning was positively related to students who felt comfortable in class discussions. A sense of community or comfort can encourage engagement. Engagement in the classroom can enhance learning (Tinto, 1997). Findings from this study suggested that students did feel comfortable in class and were probably engaged in learning, as evidenced by the positive comments they wrote on the instrument, even though students did not necessarily feel a strong sense of community. The need for social interaction to promote learning as proposed by Illeris (2003a, 2003b) was only partially supported by the findings. More research is

required to explore the relationship of learning and social interaction in apparel construction/sewing laboratory classes.

As educators become more familiar with the affective domain, the importance of an aesthetic (Fiore et al, 1996a; Kupfer, 1983; Rehm, 2000) classroom becomes more essential because it can also enhance meaning for students. A responsive classroom can provide an opportunity for rich meaning (Peterat, 1999). Students in this study attained the receiving and responding levels of the affective domain with overall means above 4 (*agree*) on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). The overall mean was 3.99 for the valuing level, also a clear indication that a substantial number of students attained this level of the affective domain. The valuing level of the affective domain may be related to the appreciation of aesthetic experiences (Fiore, Kimle, & Moreno, 1996a).

### **Conclusions**

It is hoped that development of a measure of the affective domain and findings of high affect and perceived self-efficacy levels will entice educators to include affective outcomes as they develop curriculum. Highlighting the affective domain and its importance in internalizing learning is one contribution of this study to the FCS body of knowledge. The measures created for the affective domain levels and self-efficacy levels were valid and reliable. Those were the primary purposes for the study and a valuable contribution to the literature and to measurement of the affective domain. Three noteworthy findings also emerged:

1. A significant strong positive relationship was discovered between the affective domain scores and the self-efficacy multi-item variable. The

strongest relationship among the Pearson correlations was between self-efficacy and the organization level of the affective domain. This relationship does not indicate a causal direction, but the coefficient of determination does explain over half of the variance (56.25%) shared between those two variables. This supports Bandura's (1993) theory that a person's positive self-efficacy promotes a positive affect. It also may support Ashby et al.'s (1999) theory that a positive affect enhances coping skills, boosting people's self-efficacy. Because coping skills were not measured in this study, the relationship between positive affect and coping skills could not be determined. However, the self-efficacy score hints at the level of coping skills possessed by the student.

2. Significant moderate relationships were found between self-efficacy and the other levels of the affective domain (valuing and responding). These also support Bandura's (1993) theory.
3. Attitude toward the class and overall feelings and general satisfaction with the class had a strong positive relationship; this makes sense because a positive attitude toward the class would tend to make a person satisfied with the class. A positive affect has been found to correlate with many different things, but no studies have tested this particular relationship.

The most disappointing discovery was the low sense of community held by the students. Current research (Bogue, 2002; McKinney et al., 2006) stresses the importance of a sense of community in engaging members of a class to increase learning. Among the seven different community colleges, only one showed higher

levels of sense of community held by the students. Perhaps instructors of apparel construction/sewing laboratory classes need to focus on fostering stronger community ties within their classes.

### **Further Research**

Further research might focus on a larger or different geographic area, especially because the small geographic area was considered a limitation of this study. Further research could also be done in different types of laboratory classes. The coursework in the field of family and consumer sciences (FCS) frequently includes laboratory classes in many areas; fashion, interior design, food science, and child development. This study need not be limited to FCS, however. The relevance of studying the affective domain and self-efficacy of students is not bound to this academic field. Potential for research in the math, science, and humanities areas exist.

It would be very worthwhile to repeat this study with students enrolled in intermediate or advanced classes to see if the mean score is higher in the upper levels of affective domain and self-efficacy. It would be worthwhile to more directly measure Csikszentmihalyi's (1993) concept of flow, perhaps through focus groups or interviews with advanced students. Advanced students would find the challenges of their assignments to be greater, yet they might have the capacity to conquer the challenges and may experience a level of flow that enhances involvement in their work. Likewise, repeating this study at a different educational level such as a university class or high school class would provide valuable comparisons. Also, adult

education classes in which there is intrinsic motivation for the students to participate in class because there are no grades could increase insights.

Finally, it would be worthwhile for educators to test Illeris' (2003a, 2003b) theory of adult learning in their own classrooms, incorporating concepts of the affective domain into any of the areas they teach. They and their students may reap the benefits of a positive affect complementing any educational area and find that there are increases in creativity in problem solving (Ashby et al., 1999; Bryan et al., 1996), increasing mastery, memory, learning (Bryan et al., 1996), helping, generosity, motivation (Isen, 2000), and lasting moral values (Burgi-Golub, 1997; Graham, 2003; Littledyke, 2008).

## APPENDIX A. IRB APPROVALS

### Iowa State University

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

Institutional Review Board  
Office of Research Assurances  
Vice President for Research  
1132 Pearson Hall  
Ames, Iowa 50011-2000  
515-281-4565  
FAX 515-281-4567

**DATE:** May 14, 2009

**TO:** Diane Lewis-Goldstein  
1027 North Florence Street  
Burbank, CA 91505

**CC:** Dr. Mary Lynn Damhorst  
1068 LeBaron Hall

**FROM:** Jan Canzy, IRB Administrator  
Office of Research Assurances

**TITLE:** **Affective Outcomes of California Community College Students Participating in Apparel Construction Classes in California**

**IRB ID:** 09-219      **Study Review Date:** May 12, 2009

The Institutional Review Board (IRB) Chair has reviewed this project and has declared the study exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) with the condition that formal approval from each community college where data will be collected is obtained and sent to the ISU IRB prior to beginning research activities in each respective community college.

The IRB determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as proposed in the IRB application,** including obtaining and documenting (signed) informed consent if you have stated in your application that you will do so or if required by the IRB.
- **Any modification of this research should be submitted to the IRB on a Continuing Review and/or Modification form, prior to making any changes,** to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

Please be sure to **use the documents with the IRB approval stamp** in your research.

Please note that you must submit all research involving human participants for review by the IRB. **Only the IRB may make the determination of exemption,** even if you conduct a study in the future that is exactly like this study.



<b>IRB ID:</b> 89-219	<b>EXEMPT Per 45 CFR 46.101(b):</b> 2	<b>Minimal Risk:</b> <input checked="" type="checkbox"/>
<b>Review Date:</b> 5/12/09		

IRB

## ISU EXEMPT STUDY REVIEW

APR 22 2009

## SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Diane Lewis-Goldstein	Phone: 818-815-8088	Fax: none
Degrees: M.S., B.S., B.A.	Correspondence Address: 1027 North Florence Street, Burbank, CA 91505	
Department: Apparel, Educational Studies & Hospitality Management	Email Address: diane.lewis.goldstein@csun.edu	
Center/Institute:	College: Human Sciences	
PI Level: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Postdoctoral <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student		

Title of Project: Affective Outcomes of California Community College Students Participating in Apparel Construction Classes in California.

Project Period (Include Start and End Date): [mm/dd/yy] 05/01/09 to [mm/dd/yy] 12/31/09

## FOR STUDENT PROJECTS

Name of Major Professor/Supervising Faculty: Dr. Mary Lynn Damhorst	Signature of Major Professor/Supervising Faculty: <i>Mary Lynn Damhorst</i>
Phone: 515-294-9919	Campus Address: 1068 LeBaron Hall
Department: Apparel, Educational Studies & Hospitality Management	Email Address: mldamhorst@iastate.edu
Type of Project: (check all that apply)	
<input type="checkbox"/> Research <input type="checkbox"/> Thesis <input checked="" type="checkbox"/> Dissertation <input type="checkbox"/> Class project <input type="checkbox"/> Independent Study (490, 590, Honors project) <input type="checkbox"/> Other—Please specify: _____	

## KEY PERSONNEL

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project.

NAME & DEGREE(S)	SPECIFIC DUTIES ON PROJECT	TRAINING & EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING
Diane Lewis-Goldstein, M.S., B.S., B.A.	Principal Investigator & Project Director: data collection, analysis, and interpretation.	Web-based training in Human Subjects Research Assurance Training at IAS, August 25, 2006
<i>Damhorst</i>	<i>Faculty Supv.</i>	<i>7/20/00</i>

## FUNDING INFORMATION

Internally funded, please provide account number: None

Externally funded, please provide funding source and account number: Partially funded by an Extended Education Fund Grant from California Association of Family & Consumer Sciences.
Funding is pending, please provide OSPA GoldSheet ID: None
Title on GoldSheet if different from above: None
Other: <i>e.g., funding will be applied for later, project not funded.</i>
Student Project—no funding or funding provided by student Yes

**SCIENTIFIC REVIEW**

☒ Yes ☐ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review:

Program of Study chair (Dr. Mary Lynn Damhorst) and Committee members (Dr. Jessica Barker, Dr. Leah Keno, Dr. Marsha Rehm, and Dr. Denise Vrchota) conducted the review.

If a review was conducted, please indicate the outcome of the review:

The chair and members of the POS committee gave approval to proceed with the survey.

**COLLECTION OR RECEIPT OF SAMPLES**

Will you be: (Please check all that apply.)

- ☐ Yes ☒ No Receiving biological samples from outside of ISU? See examples below.  
☐ Yes ☒ No Sending biological samples outside of ISU? See examples below.

Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

**If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the types of samples you will be sending or receiving outside of ISU:**

--

**ASSURANCE**

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects or welfare of animal subjects are protected. I will report any problems to the appropriate assurance review committee(s).
- I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
- I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.

**CONFLICT OF INTEREST**

ISU's Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. A conflict of interest can be defined as a set of conditions in which an investigator's or key personnel's judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook (<http://www.provost.iastate.edu/faculty>) and have made all required disclosures.

☐ Yes ☒ No Do you or any member of your research team have an actual or potential conflict of interest?  
☐ Yes ☐ No If yes, have the appropriate disclosure form(s) been completed?

**SIGNATURES**

*Mariane Lewis-Goldstein* 4.20.09  
 Signature of Principal Investigator Date  
*[Signature]* 4/20/09  
 Signature of Department Chair Date

**FOR IRB USE ONLY:**

☒ Project is exempt.  
☐ Project is not exempt.

*Kerry A. Smith*  
 IRB Reviewer's Signature

May 14, 2009  
 Date

## SECTION II. EXEMPTION CATEGORY

The following categories and sub-parts are eligible for exempt status review.

Check all applicable categories and sub-parts below. To select a category box, double-click on the check box.

### PLEASE NOTE:

All procedures for all subjects in a project must be exempt in order for the project to be reviewed for exemption (i.e., all of the activities that participants will be asked to participate in must be found in one or more of the following categories).

Exemption does not apply if the targeted populations for the research will involve individuals who are legally incompetent, significantly mentally ill or impaired, or those who are vulnerable to extraordinary institutional coercion, such as prisoners, residents of 24-hour nursing facilities or anyone who is involuntarily confined.

Investigators whose research projects involve procedures which do not fit within an exempt category will be asked to complete the ISU New Human Subjects Review Form.

Investigators conducting research that fits into the exempt categories of research are not required to obtain a volunteer's consent to participate using an informed consent document containing all of the elements of consent. However, the IRB requires that the following items be included in an informed consent document or letter of introduction: a statement that the project involves research; a statement that participation is voluntary; a statement that the participant may skip any questions they do not feel comfortable answering in a survey; and the measures that will be used to ensure confidentiality of data collected in the research.

☐ **Education Practices:** Research conducted in established or commonly accepted educational settings, involving normal educational practices is exempt when:

- ☐ research is on regular and special education instructional techniques, **or**
- ☒ research is on the effectiveness of, or the comparison among, instructional techniques, curricula, or classroom management methods.

☒ **Educational Tests:** Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement) is exempt if:

- ☒ in the researcher's private data (including field notes), as well as in any published material, information taken from these sources is recorded in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects; **or**
- ☒ the information, if disclosed outside of the research, could not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation.

- ☒ **Surveying or Interviewing:** Research involving, or interview procedures of, adult-aged subjects is exempt if:

- ☒ in the researcher's private data (including field notes), as well as in any published material, responses are recorded *anonymously* and in such a manner that the human subjects *cannot* be identified, directly or through identifiers linked to the subjects; **or**
- ☒ the responses, if disclosed outside of the research, could *not* reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation.

**This exemption does not apply if the subjects are minor children or other vulnerable participants.**

- ☒ **Public Observations:** Research involving observation of public behavior is exempt if:

- ☒ in the researcher's private data (including field notes), as well as in any published material, information taken from these sources is recorded in such a manner that subjects *cannot* be identified, directly or through identifiers linked to the subjects; **or**
- ☒ the information, if disclosed outside of the research, could *not* reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation.

**This exemption applies to research involving minor children only when the investigator does not participate in the activities observed. Workplace meetings and activities, as well as classroom activities, are not considered "public behavior."**

- ☐ **Public Officials:** All research involving educational tests, survey or interview procedures, or public observations is exempt when the respondents are elected or appointed public officials or candidates for public office.

**Managers and staff in public agencies are not "public officials" in most cases.**

- ☒ **Existing Data:** Research involving the collection of existing data, documents, records, pathological or diagnostic specimens is exempt if:

- ☒ these sources are publicly available; **or**
- ☒ in both the researcher's private data (including field notes) and in any published material, the information is recorded by the researcher in such a manner that subjects *cannot* be identified, directly or through identifiers linked to the subjects.

- ☐ **Taste and Food Quality:** Research on taste and food quality evaluation and consumer acceptance studies is exempt if:

- ☐ wholesome food without additives will be used; **or**
- ☐ the food contains a food ingredient that is at or below the level found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

### III. PROTOCOL INFORMATION

1. Please outline the study procedures including a complete description of how subjects will be involved and what type of data collection method will be used. Include study dates, the number of individuals contacted to participate in the study, as well as the number of subjects actually enrolled in the study. Attach a copy of all data collection instruments including surveys, interview or focus group questions, etc.

After instruction and explanation of research by going over cover letter, participating students will self-report on a written survey during their regular class time. The survey should take about 10 minutes to complete. Study dates are anticipated to be between May 2009 and December 2009. Approximately 350 students will be surveyed. A copy of the survey is attached.

Instructors teaching beginning apparel construction classes will be contacted by email and if a positive response for permission to survey their students is given, a follow-up by phone or email will be made to determine the best time to administer the survey. A copy of the email is attached.

2. List characteristics of your study population (i.e., ages, student status, gender, ethnicity, etc.) and your rationale for choosing them for the study. (Studies with vulnerable populations such as children, adolescents, prisoners, or other institutionalized individuals are not eligible for exempt review.)

The study population is anticipated to be adults, aged 18 and above, diverse in ethnicity and gender, who are enrolled in an apparel construction classes in California Community Colleges.

3. Describe any potential risk and assess its level of likelihood and seriousness. Risks could be physical, psychological, social, or legal and can include minor discomfort and/or embarrassment. Describe the procedures to be used for protecting against or minimizing any potential risk, including the risks to disclosure of confidentiality.

No foreseeable risks are involved for participating students. Students are advised to not put their name or any other identifying information on the survey. Completed surveys will be collected by Principal Investigator, held in Principal Investigator's home office, and data will be on a password-protected computer. Surveys will be destroyed December 31, 2010.

4. Describe the informed consent process to be used for the study. Attach copies of consent forms, information sheets and/or letters of introduction that will be used. Also attach any documents that will be used for advertising purposes.

The informed consent process includes a cover letter explaining that the project involves research, a statement that participation is voluntary, a statement that the participant may skip any question or part of question he/she does not feel comfortable answering, and that measures will be used to ensure confidentiality of data collected in the research. No advertising will be done. A cover letter is attached.

## California State University, Northridge

California State University  
**Northridge**

Office of the Associate Vice President  
Research and Sponsored Projects

April 29, 2009

Diane Lewis-Goldstein  
Department of Family and Consumer Sciences  
California State University, Northridge

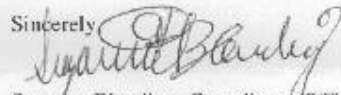
Re: "Affective Outcomes of California Community College Students  
Participating in Apparel Construction Classes in California" Research  
Protocol

Dear Ms. Lewis-Goldstein:

Enclosed for your records is a copy of the cover sheet of your approved Human Subjects Protocol Form. Please note that your project has been approved as exempt. If there are any changes to your protocol, you must contact the Office of Research and Sponsored Projects to ensure your project is still within the exempt guidelines.

If you have any questions, call this office at (818) 677-2901.

Sincerely,



Suzanne Blanding, Compliance Officer  
On Behalf of  
Committee for the Protection of Human Subjects

enclosure

# **HUMAN SUBJECTS PROTOCOL APPROVAL FORM** **CALIFORNIA STATE UNIVERSITY, NORTHRIDGE**

9

This Protocol Approval Form must be completed for all California State University, Northridge faculty and student research which involves human subjects. Additional material(s), as described below, must be attached to this form at the time it is submitted to the Standing Advisory Committee for the Protection of Human Subjects (SACPHS) in the Office of Research and Sponsored Projects (UH 265, ext. 2901).

In ALL cases, *RESEARCH MAY NOT PROCEED* until authorized by the Committee. You will be notified of the action of the Committee following the receipt of an original and nine copies of

this form and all required supplementary information (see below) in the Office of Research and Sponsored Projects. **ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION.**

Brief, excerpted definitions and guidelines regarding research involving human subjects appear on the attached instructions. For a copy of complete regulations, contact the Office of Research and Sponsored Projects. Read all instructions before completing the form. **ONLY TYPEWRITTEN FORMS WILL BE ACCEPTED.**

1. Title of research: Affective Outcomes of California Community College Students Participating in Apparel Construction Classes in California.

2. Name of researcher(s): Diane Lewis-Goldstein

Campus  
ext. 3051

Major or  
Department FCS

3. Address: 1027 N. Florence Street  
Burbank, CA 91505

Home phone: 818-845-8088

Email Address: diane.lewis.goldstein@csun.edu

4. Name of Faculty Advisor: N/A

Faculty Advisor ext.: N/A

5. Period of Project (see pg. 1-Itemized Instructions): From May 1, 2009 To December 31, 2009

6. Check one: ☐ Faculty Research

☐ Student thesis

☒ Other (specify): Dissertation research (Iowa State University)

Course prefix and number

Course title

7. Check one: ☒ Unfunded

☐ Funded

Date (to be) submitted

8. History of Protocol: ☒ New

☐ Renewal

Approval Date

9. Does this protocol contain modification(s) from a previously approved protocol?

☐ Yes (explain)

☒ No

☐ N/A

10. Special procedures: (give detailed description on separate sheet)

☐ Radioactive materials

☐ Drug(s), Specify:

11. Is a Subject Bill of Rights attached?

☐ Yes

☒ No

12. Are copies of any questionnaire(s), survey instrument(s) and/or interview schedule(s) referred to in this protocol statement attached?

☒ Yes

☐ No

13. Is draft Informed Consent Form(s) attached?

☐ Yes

☒ No

14. Is a letter of permission attached?

☐ Yes

☒ No

15. SIGNATURES: Refer to page 1, General Instructions letter D, before signing.

Diane Lewis-Goldstein

4-22-09

Signature of Faculty Researcher or Student Advisor

Date

Student Investigator's Signature (specify grad. or undergrad.)

Date

## **FOR SACPHS AND RESEARCH OFFICE USE ONLY**

☒ Noted, exempt

☐ Approved, expedited review

☐ See attached memo

☐ Noted, minimal risk

☐ Approved, reasonable risk

☐ Not approved, see attached memo

Jennifer L. Porroch

4/24/99

Chair, SACPHS, or Director, RSCH

Date

date received

Expected Reviewer(s):



**COMMUNITY COLLEGES**  
**Antelope Valley College**

**Subject:** Re: Approval to come to your campus  
**From:** Maggie Drake <m Drake@avc.edu>  
**Date:** Mon, 18 May 2009 15:20:23 -0700  
**To:** Diane Lewis-Goldstein <diane.lewis.goldstein@csun.edu>  
**CC:** Evelyn Tiede <etiede@avc.edu>

Thank you for your interest in Clothing and Textile programs. I am supporting your request and give you my approval to visit our campus for the purpose of administering your survey to any Clothing and Textile students provided that you also have the verbal approval of the instructor of record. It is my understanding that your survey will not require any more than 15 minutes of time, and that the instructor of record will be present during the time you are conducting the survey. Thank you for your request. Good luck with your dissertation.

Diane Lewis-Goldstein wrote:

Hi Dean Drake,

Thank you for taking the time to return my phone message. As Evelyn Tiede mentioned to you, she gave me a positive response about visiting her classes to administer a short survey to her students. When I was unable to find your email address I did email her the approval letter from Iowa State University, the informed consent for the students, and the survey instrument to her to forward to you. I have attached them again here for your records.

I am in the final process of completing my PhD through Iowa State University in Family and Consumer Sciences Education. My dissertation research involves students learning to sew. I have a short survey (I had several different students take the survey and the most common completion time was 7 minutes) that measures, at the end of the term, affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and NO items that request personal identification information from the student. It is a completely voluntary survey for students 18 and older. I hope to find out much more about how students learn in laboratory classes.

I do need your assistance, too. Iowa State University is requiring me to obtain approval from you that I may come to your campus and conduct research. An email response to this email that I can forward to Iowa State University is fine. A simple statement that I have your approval to come to Antelope Valley College and administer the survey to students would be sufficient.

Thank you so much,

Diane Lewis-Goldstein

818-845-8088

## El Camino College

**Subject:** RE: Approval to conduct research on your campus  
**From:** "Rodriguez, Stephanie" <srdriguez@elcamino.edu>  
**Date:** Thu, 28 May 2009 16:06:26 -0700  
**To:** "Diane Lewis-Goldstein" <diane.lewis.goldstein@csun.edu>

Hi Diane,  
 You are good to go! Thanks for following up. Good luck!

Dr. Stephanie Rodriguez  
 Dean, Industry & Technology  
 El Camino College  
 310.660.3600

---

**From:** Diane Lewis-Goldstein [mailto:diane.lewis.goldstein@csun.edu]  
**Sent:** Tuesday, May 26, 2009 1:32 AM  
**To:** Rodriguez, Stephanie  
**Subject:** Re: Approval to conduct research on your campus

Dear Dr. Rodriguez,  
 I hope you received my earlier email on 5/18/09, but just in case, I am sending you another copy of the survey instrument and the informed consent letter, and the approval for exempt research from Iowa State University. Please let me know if there are any questions I might answer for you.

Thank you,  
 Diane Lewis-Goldstein  
 Home Phone: 818-845-8088

----- Original Message -----

**From:** [Rodriguez, Stephanie](#)  
**To:** [Diane Lewis-Goldstein](#)  
**Sent:** Monday, May 18, 2009 12:42 PM  
**Subject:** RE: Approval to conduct research on your campus

Hi Diane,  
 Can you forward me a copy of the student survey? Thanks.

Dr. Stephanie Rodriguez  
 Dean, Industry & Technology  
 El Camino College  
 310.660.3600

---

**From:** Diane Lewis-Goldstein [mailto:diane.lewis.goldstein@csun.edu]  
**Sent:** Thursday, May 14, 2009 4:08 PM  
**To:** Rodriguez, Stephanie  
**Subject:** Approval to conduct research on your campus

Dear Dr. Rodriguez,

I am a colleague and friend of Vera Bruce Ashley, who teaches in Fashion and Related Technologies. I had contacted her about conducting a short survey in FASH 10AB classes before the end of the current semester. She gave me a positive response and I am hopeful that the other instructor will be as positive. I am in the final

process of completing my PhD through Iowa State University in Family and Consumer Sciences Education. My dissertation research involves students learning to sew. I have a short survey (I had several different students take the survey and the most common completion time was 7 minutes) that measures, at the end of the term, affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and NO items that request personal identification information from the student. It is a completely voluntary survey for students 18 and older. I hope to find out much more about how students learn in laboratory classes.

I do need your assistance, too. Iowa State University is requiring me to obtain approval from you that I may come to your campus and conduct research. An email response to this email that I can forward to Iowa State University is fine. A simple statement that I have your approval to come to El Camino College and administer the survey to students would be sufficient. I apologize for having to ask for a quick reply, but final exams will be upon us shortly.

I have attached a copy of my letter to colleagues and the cover letter for the students enrolled in FASH 10AB for you to review. If you would like to see the survey, I will be happy to email you a copy. Since the approved version is a large PDF file (904K) I did not attach it in case there are limits on what your college email will accept. This survey has been reviewed and approved by Iowa State University and by California State University, Northridge where I am a faculty member. Please feel free to contact me with any questions or concerns you might have. My home phone number is 818-845-8088.

Sincerely,

Diane Lewis-Goldstein

## Long Beach City College

**Subject:** RE: I would like to visit your class  
**From:** "Gary Thomas Scott" <gscott@lbcc.edu>  
**Date:** Fri, 22 May 2009 11:46:07 -0700  
**To:** "Diane Lewis-Goldstein" <diane.lewis.goldstein@csun.edu>

Diane,

I apologize for not getting back to you sooner.

I am happy for you to do your survey in Daron's class.

Best of luck completing your studies.

Dr. Scott

Dr. Gary Thomas Scott  
 Dean, Creative Arts and Applied Sciences  
 Long Beach City College  
 4901 E. Carson St.  
 Long Beach, CA 90808  
 562-938-4446  
[gscott@lbcc.edu](mailto:gscott@lbcc.edu)

-----Original Message-----

**From:** Diane Lewis-Goldstein [<mailto:diane.lewis.goldstein@csun.edu>]  
**Sent:** Thursday, May 21, 2009 2:32 PM  
**To:** Gary Thomas Scott  
**Cc:** Pamela Knights; Debra Schaefer  
**Subject:** Fw: I would like to visit your class

Hi Dr. Scott,

Today I left a phone message for you, with my home phone number in case you had any questions, 818-845-8088. I am currently working on my Ph.D. research at Iowa State University. I hope to provide evidence that classes such as PD 24AB provide students with much more than cognitive and motor

skills. I have a short survey that measures affective outcomes and self-efficacy along with satisfaction with the class. These attributes have been linked to better decision making. The survey along with the informed consent and my approval for exempt research are all attached for your records.

I have received permission from Daron Borg to administer the survey during the final period, but I also need formal approval from you that I forward to Iowa State University. A simple statement that I have your approval to come to Long Beach City College and administer the survey to students would be sufficient. I apologize for having to ask for a quick reply, but once finals are over, my population vanishes.

Thank you very much.  
 Sincerely,  
 Diane Lewis-Goldstein  
 Home phone: 818-845-8088

----- Original Message -----

From: "Diane Lewis-Goldstein" <[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)>  
 To: <[gscott@lbcc.edu](mailto:gscott@lbcc.edu)>  
 Sent: Wednesday, May 20, 2009 2:10 PM  
 Subject: Fw: I would like to visit your class

Dear Dr. Scott,  
 I am a colleague and friend of Pamela Knights, who is the Fashion Design Program Director and Debra Schaefer, the Fashion Merchandising Program Director. I am currently teaching in the Fashion Design and Merchandising areas of the Family and Consumer Sciences Department at CSUN. Pamela was kind enough to give me the emails of the faculty who teach FASH 24AB so that I could ask them if they would be willing to allow me to use part of their class time for a short survey that I have designed about students learning to sew in laboratory classes. This is part of my Ph.D. research in Family and Consumer Sciences Education at Iowa State University.

The survey measures, at the end of the term, affective learning or feelings and attitudes about sewing, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and no items that ask personal identifying information of the student. It is a completely voluntary survey, so if anyone does not want to participate, no problem. Only students who are 18 and older are eligible to take the survey. I had several of my students take the survey and the most common completion time was 7 minutes.

It took a bit longer than I had expected to move through the system at Iowa State, and I just received my formal approval last Thursday, when I immediately emailed Pamela. As you can see below, Daron Borg has granted me permission to use part of the final time for the students to take the survey, however, I also need approval from the dean as a representative of the college. A simple statement that I have your approval to come to Long Beach City College and administer the survey to students would be sufficient. I apologize for having to ask for a quick reply, but once finals are over, my population vanishes.

I have attached for your records a copy of my approval letter for exempt research from Iowa State University, a copy of the informed consent for



students, and a copy of the survey itself. I hope to be able to provide evidence that apparel /sewing laboratory classes are even more valuable than we currently realize. I would be happy to share my results with you upon the completion of the dissertation. If you have any questions or would like to speak to me directly, my home number is 818-845-8088.

Thank you very much for your consideration,

Diane Lewis-Goldstein  
Home phone: 818-845-8088

----- Original Message -----  
From: 'Deron Sorg' <[dsorg@lbcc.edu](mailto:dsorg@lbcc.edu)>  
To: 'Diane Lewis-Goldstein' <[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)>  
Cc: 'Pamela Knights' <[spknights@lbcc.edu](mailto:spknights@lbcc.edu)>  
Sent: Tuesday, May 19, 2009 3:39 PM  
Subject: RE: I would like to visit your class

Hi Diane-

It would be fine for you to come to my final. It is May 22, 2009 Friday at 8:00am but I must be done by 9:30 as I am leaving for the airport straight from class. I have geared the final to be short and sweet for them, we did some of the final during the last class.  
Let me know.  
Deron.

-----Original Message-----  
From: Diane Lewis-Goldstein [<mailto:diane.lewis.goldstein@csun.edu>]  
Sent: Tue 5/19/2009 2:50 PM  
To: Deron Sorg  
Cc: Pamela Knights  
Subject: I would like to visit your class

Hi Deron,  
I am a colleague and friend of Pamela Knights. I know this is a very busy time of year, but I need to ask a favor of you.  
I am seeking out those who are teaching apparel construction classes (FASH 24AB). I am trying to finish my PhD and my dissertation research involves students learning to sew. I hope to find out much more about how students learn in laboratory classes.

I have a short survey (I had several different students take the survey and the most common completion time was 7 minutes) that measures, at the end of the term, affective learning or feelings and attitudes, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and no items that ask personal identifying information of the student. It is a completely voluntary survey, so if anyone does not want to participate, no problem. Only students who are 18 and older are eligible to take the survey.

I just got my approval to collect data from Iowa State University this last Thursday. I also need to obtain approval from your dean, Dr. Gary Scott, and I will seek that approval if I have a positive response from you. You are a very important first step!

I have attached a letter explaining my project. I hope you will agree to allow me about 15 minutes of class time during your final. If you have any questions, please feel free to email me [diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu) or give me a call at home, 818-845-8088.

Sincerely,

Diane Lewis-Goldstein

## Pasadena City College

**Subject:** Fw: RE: Fw: Approval to conduct research on your campus  
**From:** HOLLIE LUTTRELL <[pccfashion.luttrell@yahoo.com](mailto:pccfashion.luttrell@yahoo.com)>  
**Date:** Fri, 22 May 2009 06:00:48 -0700 (PDT)  
**To:** [diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)

Hopefully this is enough for an approval. I hate to keep pressing him!

--- On Wed, 5/20/09, Don A. Paxton <[DAPAXTON@pasadena.edu](mailto:DAPAXTON@pasadena.edu)> wrote:

From: Don A. Paxton <[DAPAXTON@pasadena.edu](mailto:DAPAXTON@pasadena.edu)>  
 Subject: RE: Fw: Approval to conduct research on your campus  
 To: "HOLLIE LUTTRELL" <[pccfashion.luttrell@yahoo.com](mailto:pccfashion.luttrell@yahoo.com)>  
 Date: Wednesday, May 20, 2009, 9:14 AM

Hi Hollie,  
 Based on your comments, I have no reservations in terms of her surveying your students.  
 Have a good day,  
 don Paxton

---

**From:** HOLLIE LUTTRELL [<mailto:pccfashion.luttrell@yahoo.com>]  
**Sent:** Tue 5/19/2009 4:51 PM  
**To:** Don A. Paxton  
**Subject:** Re: Fw: Approval to conduct research on your campus

Hi Don,

I know Diane Lewis-Goldstein from CSUN. She is a full-time faculty in the Family Consumer Sciences Department. Currently, she is working her Doctoral degree at Iowa State.

Diane contacted me to ask if she could survey the Fash1A students at PCC as part of her research on students who are learning to sew. Her survey is anonymous, and does not record any information that would identify any individual students. The survey is to be administered to students over the age of 18.

I do not have any objections to Diane administering her survey to our Fash 1A students, as long as you approve as well. I will email her tonight, and ask if we can have a copy of her survey and cover letter in order to help you with your decision.

If you have any reservations, I would be happy to let Diane know that we will not be able to help her with her research at this time.

Thank you!  
 Hollie Luttrell  
 Fashion Department Chair  
 Pasadena City College  
[pccfashion.luttrell@yahoo.com](mailto:pccfashion.luttrell@yahoo.com)  
 (626)585-7087 Classroom (Tu 8am-9pm, Th 5pm-9pm & Sat 8am-3pm)  
 (626)585-7354 Office (Message)



--- On Tue, 5/19/09, Diane Lewis-Goldstein <[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)> wrote:

From: Diane Lewis-Goldstein <[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)>  
 Subject: Fw: Approval to conduct research on your campus  
 To: "HOLLIE LUTTRELL" <[pcfashion.luttrell@yahoo.com](mailto:pcfashion.luttrell@yahoo.com)>  
 Date: Tuesday, May 19, 2009, 3:18 PM

Hi Holly,  
 Would you mind speaking with Dr. Paxton about this?  
 Thanks,  
 Diane

----- Original Message ----- From: "Don A. Paxton" <[DAPAXTON@pasadena.edu](mailto:DAPAXTON@pasadena.edu)>  
 To: "Diane Lewis-Goldstein" <[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)>  
 Cc: "Don A. Paxton" <[DAPAXTON@pasadena.edu](mailto:DAPAXTON@pasadena.edu)>  
 Sent: Tuesday, May 19, 2009 2:21 PM  
 Subject: RE: Approval to conduct research on your campus

Hello Ms. Lewis-Goldstein,  
 Unfortunately, I cannot give such approval for this request. Since I do not know you personally, nor know the nature of the study, etc., I am very reluctant to give any type of "approval". I would suggest that you continue to speak to Hollie Luttrell and advise her to contact me regarding your request. I will then consider the ramifications at that time.  
 Dr. Paxton

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From: Diane Lewis-Goldstein [mailto:[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)]  
 Sent: Tue 5/19/2009 2:16 PM  
 To: Don A. Paxton  
 Cc: HOLLIE LUTTRELL  
 Subject: Approval to conduct research on your campus

Dear Dean Paxton,

I just spoke with Hollie Luttrell and she told me that there were problems with the email system, so I have copied below the email I sent you on May 14, 2009. I am attaching my IRB approval, the IRB approved survey, and the IRB approved student letter of informed consent for your records. I hope to hear from you via email that I have your approval to do this research on the Pasadena City College campus so that I may forward that email to Iowa State University for their records. A simple statement that I have your approval is sufficient. Please feel free to also call me at home, 818-845-8088 if you have any other questions or concerns. Thank you very much for your consideration.

Fw: RE: Fw: Approval to conduct research on your campus

Sincerely,

Diane Lewis-Goldstein

Home phone: 818-845-8088

Dear Dean Paxton,

I am a colleague and friend of Hollie Luttrell, who teaches in Fashion. I had contacted her about conducting a short survey in FASH 1A classes before the end of the current semester. She gave me a positive response and is forwarding the information to other instructors of that class and has indicated that there should be a positive response. I am in the final process of completing my PhD through Iowa State University in Family and Consumer Sciences Education. My dissertation research involves students learning to sew. I have a short survey (I had several different students take the survey and the most common completion time was 7 minutes) that measures, at the end of the term, affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and NO items that request personal identification information from the student. It is a completely voluntary survey for students 18 and older. I hope to find out much more about how students learn in laboratory classes.

I do need your assistance, too. Iowa State University is requiring me to obtain approval from you that I may come to your campus and conduct research. An email response to this email that I can forward to Iowa State University is fine. A simple statement that I have your approval to come to Pasadena City College and administer the survey to students would be sufficient. I apologize for having to ask for a quick reply, but final exams will soon be upon us.

I have attached a copy of my letter to colleagues for you to review. If you would like to see the survey, I will be happy to email you a copy. Since the approved version is a large PDF file (904K) I did not attach it in case there are limits on what your college email will accept. This survey has been reviewed and approved by Iowa State University and by California State University, Northridge where I am a faculty member. Please feel free to contact me with any questions or concerns you might have. My home phone number is 818-845-8088.

Sincerely,

Diane Lewis-Goldstein

## Santa Monica College

**Subject:** FW: Approval for exempt research  
**From:** "SHELDON\_CAROLINE" <Sheldon\_Caroline@smc.edu>  
**Date:** Wed, 10 Jun 2009 11:12:17 -0700  
**To:** <diane.lewis.goldstein@csun.edu>

Hi Diane

You are approved. Good luck.

C

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**From:** RODRIGUEZ\_TERESITA  
**Sent:** Wednesday, June 10, 2009 10:13 AM  
**To:** SHELDON\_CAROLINE  
**Subject:** RE: Approval for exempt research

This is fine. Send her the approval.

Tere

---

**From:** SHELDON\_CAROLINE  
**Sent:** Tuesday, June 09, 2009 3:52 PM  
**To:** RODRIGUEZ\_TERESITA  
**Subject:** FW: Approval for exempt research  
**Importance:** High

Hi Tere

Does this one have your approval? This researcher wants to survey students before the semester is over. Let me know asap so I can send her an email.

C

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**From:** SHELDON\_CAROLINE  
**Sent:** Wed 6/3/2009 9:25 AM  
**To:** RODRIGUEZ\_TERESITA  
**Subject:** FW: Approval for exempt research

Hi Tere

This one seems to be ok. All I need is your approval so I can send her an email.

C

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**From:** Diane Lewis-Goldstein [mailto:diane.lewis.goldstein@csun.edu]  
**Sent:** Tuesday, June 02, 2009 10:29 PM  
**To:** SHELDON\_CAROLINE  
**Subject:** Re: Approval for exempt research

Hi Dr. Sheldon,  
 I currently have approval from two faculty members, and it is best for them if I visit before finals, one is Wednesday afternoon and the other is Saturday. Just to recap: my research exempt research, all stamped and approved by Iowa

Iowa State University. I do need, however, your permission via email so I may forward it to Iowa State. I have attached the approval letter and the survey instrument and informed consent student letter from Iowa State University.

Thanks so much!

Diane Lewis-Goldstein

----- Original Message -----

From: [SHELDON CAROLINE](#)

To: [Diane Lewis-Goldstein](#)

Sent: Wednesday, May 27, 2009 2:41 PM

Subject: RE: Approval for exempt research

Hi Diane

Your project seems to meet our conditions. I need to forward it to the executive for their final approval before I can give you formal approval. Please wait until you get a second email from me indicating that you have been approved prior to collecting any data or contacting any faculty.

Thanks!

Caroline Sheldon, Ph.D.

Dean, Institutional Research

Santa Monica College

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**From:** Diane Lewis-Goldstein [mailto:[diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu)]

**Sent:** Wednesday, May 27, 2009 12:34 AM

**To:** SHELDON\_CAROLINE

**Subject:** Approval for exempt research

Dear Dr. Sheldon,

I had emailed this before the holiday and received an out of office auto reply, so I thought I would resend it to you.

Thanks!

I currently teach at CSUN in the Family and Consumer Sciences Department. I am also in the final process of completing my Ph.D. through Iowa State University in Family and Consumer Sciences Education. My dissertation research involves students learning to sew. I currently have a short survey (the most common completion time was 7 minutes) that measures, at the end of the term, affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class. I hope to find out much more about how students learn in laboratory classes and provide evidence that classes that teach students to sew have outcomes beyond cognitive and motor skills. My research is exempt from the requirements of the human subjects protection regulations as described in 45 CFR 46.101(b), as is shown in the approval letter from Iowa State University. According to your website, you simply request the information about the exempt research be sent to you. However, I do need a formal statement from you. A simple statement responding to this email that I have your approval to come to Santa Monica College and administer the survey to students would be sufficient for me to forward to Iowa State University.

I am a colleague and friend of Marine Boyadzhyan, who teaches in Fashion at SMC and CSUN, and Fereshteh Mobasheri, the program coordinator for Fashion. Marine has given me a positive response regarding allowing me to administer a short survey to her students in FASHN 3, Apparel Construction. I am hopeful that other instructors will also respond with a positive answer to my request. There are NO items that ask about

the instructor and NO items that request personal identification information from the student. It is a completely voluntary survey for students 18 and older. The survey instrument, along with the informed consent for the students, and my approval for exempt research are all attached for your records. I do hope to receive an email from you soon.

Please feel free to contact me with any questions or concerns you might have. My home phone number is 818-845-8088.

Sincerely,  
Diane Lewis-Goldstein



## Ventura College

**Subject:** RE: Approval to conduct research on your campus  
**From:** Robert Taylor <rtaylor1@vcccd.edu>  
**Date:** Thu, 14 May 2009 14:55:42 -0700  
**To:** Diane Lewis-Goldstein <diane.lewis.goldstein@csun.edu>

Dear Diane,

Ventura College will be delighted to be involved in your dissertation research and welcome you to visit our campus to conduct your research. Please take this response as my approval for you to visit our campus and conduct research. Yes, I would like a copy of your survey and the conclusions when you have compiled your data. Good Luck.

Robert J. Taylor, Ph. D.  
 Dean, Career & Technical Education  
 Ventura College  
 Phone: (805) 654-6430

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**From:** Diane Lewis-Goldstein [mailto:diane.lewis.goldstein@csun.edu]  
**Sent:** Thursday, May 14, 2009 1:37 PM  
**To:** Robert Taylor  
**Subject:** Approval to conduct research on your campus

Dear Dr. Taylor,

I am a colleague and friend of Karen Dress, who teaches in Home Economics and Fashion Design Merchandising. I had contacted her about conducting a short survey in HEC V12A classes before the end of the current semester. She is forwarding the information to those instructors and has indicated that there should be a positive response. I am in the final process of completing my PhD through Iowa State University in Family and Consumer Sciences Education. My dissertation research involves students learning to sew. I have a short survey (I had several different students take the survey and the most common completion time was 7 minutes) that measures, at the end of the term, affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class. There are NO items that ask about the instructor and NO items that request personal identification information from the student. It is a completely voluntary survey for students 18 and older. I hope to find out much more about how students learn in laboratory classes.

I do need your assistance, too. Iowa State University is requiring me to obtain approval from you that I may come to your campus and conduct research. An email response to this email that I can forward to Iowa State University is fine. A simple statement that I have your approval to come to Ventura Community College and administer the survey to students would be sufficient. I apologize for having to ask for a quick reply, but final exams are upon all of us.

I have attached a copy of my letter to colleagues for you to review. If you would like to see the survey, I will be happy to email you a copy. Since the approved version is a large PDF file (904K) I did not attach it in case there are limits on what your college email will accept. This survey has been reviewed and approved by Iowa State University and

by California State University, Northridge where I am a faculty member. Please feel free to contact me with any questions or concerns you might have. My home phone number is 818-845-8088.

Sincerely,

Diane Lewis-Goldstein

## APPENDIX B. FACULTY INFORMATION LETTER

IRB #	06210
EXPIRY DATE	12/31/05
REVIEW	IRB

Dear Colleague,

I am inviting you to participate in my doctoral research project to study apparel construction / sewing laboratory classes in California Community Colleges. I have constructed a survey to ask your students about their attitudes toward sewing, fabric, and the class in general. The items measure affective learning, self-efficacy or feelings of competence in the class, and satisfaction with the class.

If there is a best time to contact you, please let me know by email. I will follow-up by phone if that is convenient with you.

I am asking you to set aside about 15 minutes of your class time to allow me to distribute a short survey to your students. The survey should take about 10 minutes for the students to complete. Their participation is voluntary and they may skip any question they do not feel comfortable answering.

There are no foreseeable risks to the students, all responses are confidential and will not be shared in any way that might identify them as individuals. The surveys will be stored in my home office and all data will be stored in a password-protected computer file. In addition, no statements or questions in the survey ask about the instructor.

The results of this project will be used for my dissertation in Family and Consumer Sciences Education at Iowa State University. Through your student's participation, I hope to understand more about affective engagement and self-efficacy in construction classes and help fill in a gap in the research field of Family and Consumer Sciences. Once this study is complete, I would be happy to share my results with you.

If you have any questions about this study, you may contact me via email at [diane.lewis.goldstein@csun.edu](mailto:diane.lewis.goldstein@csun.edu) or by phone at (818) 677-3051 or Dr. Mary Lynn Damhorst, via email at [mldmhrst@iastate.edu](mailto:mldmhrst@iastate.edu) or by phone at (515) 294-9919.

If you have any questions about the rights of research subjects, please contact the IRB Administrator at Iowa State University, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu) or the Director at the Office of Research Assurances, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011-2207.

Thank you for your participation by allowing me to survey your class.

Sincerely,



Diane Lewis-Goldstein  
Ph.D. Candidate  
Iowa State University



## APPENDIX C. STUDENT INFORMED CONSENT

ISU IRB #1	02-218
IRB-APPROVED	10/27/2008
IRB #2	02

May 2008

Dear Student,

I am inviting you participate in my doctoral research project to study apparel construction / sewing laboratory classes in California Community Colleges. Please note that only students who are 18 or older are eligible to participate.

Along with this letter is a short survey that I hope you will fill out and return to me. The survey asks a variety of questions about how you feel about your apparel construction / sewing laboratory class. Your instructor will never see your individual responses. Your participation is voluntary and will not have any effect on your grades in any way. You may skip any questions or parts of questions that you do not feel comfortable answering. It should take about 10 minutes for you to complete.

There are no foreseeable risks to you or your privacy if you decide to join my study by filling out this survey. Your responses are confidential and will not be shared with anyone in any way that identifies you as an individual. You should not put your name or any other identifying information on the survey. If the results are published, your identity will remain confidential.

There is no direct benefit to you for participating in this survey; however the findings will help instructors learn important information about how students learn in construction classes. There are no costs to you and you will not be compensated for participating in this survey.

The results of this project will be incorporated into my Ph.D. dissertation in Family and Consumer Sciences Education at Iowa State University. Through your participation, I hope to understand more about how students learn in these classes and help fill in a gap in the research field of Family and Consumer Sciences. Once this study is complete, I would be happy to share my results with you.

If you have any questions about this survey, you may contact me via email at [diane.lewis-goldstein@iastate.edu](mailto:diane.lewis-goldstein@iastate.edu) or by phone at (815) 677-3051 or my advisor, Dr. Mary Lynn Damhorst, via email at [mlmhorst@iastate.edu](mailto:mlmhorst@iastate.edu) or by phone at (515) 294-0919.

If you have any questions about the rights of research subjects, please contact the IRB Administrator at Iowa State University, (515) 294-4588, [IRB@iastate.edu](mailto:IRB@iastate.edu) or the Director (515) 294-3115, Office of Research Assurance, 1138 Pearson Hall, Ames, IA 50011.

Thank you for your time and effort in completing this survey.

Sincerely,

Diane Lewis-Goldstein  
Ph.D. Candidate  
Iowa State University

## APPENDIX D. SURVEY INSTRUMENT

ISU IRB # 1 09-219  
EXEMPT DATE: 12 May 2009  
Initial By: jc

**Thank you for helping with this research by answering each one of the questions!**  
**Please circle your answers or fill-in the blank.**

What is your age? \_\_\_\_\_

What is your gender? 1. Female 2. Male

In terms of an ethnicity/race, I am (please circle all that apply):

1. African American/Black

2. Asian American

3. European American/White

4. Hispanic/Latino/Latina

5. Native American

6. Other \_\_\_\_\_

How many **academic units** have you completed? \_\_\_\_\_

Prior to this class, have you had **any** sewing classes?

0. No 1. Yes

Prior to this class, have you had **any** informal sewing experience?

0. No 1. Yes

The class I am currently taking is:

1. Beginning

2. Intermediate

3. Advanced

How much did the following <b>influence</b> your decision to enroll in an apparel construction / sewing lab?	Not at all	A little	Somewhat	Greatly	Absolutely
1. It is a required course for my program/major.	1	2	3	4	5
2. I wanted to learn how to sew.	1	2	3	4	5
3. I wanted to learn how to use my sewing machine.	1	2	3	4	5
4. I enjoy sewing.	1	2	3	4	5
5. I wanted to be able to create original items for myself, others, or my home.	1	2	3	4	5
6. Sewing is a form of self-expression or a creative outlet for me.	1	2	3	4	5
7. Sewing gives me a sense of accomplishment or achievement.	1	2	3	4	5
8. I feel that I get better quality if I sew, rather than buy items.	1	2	3	4	5
9. I wanted to be able to alter my clothing to fit better.	1	2	3	4	5
10. I wanted to repair or maintain clothing or household items.	1	2	3	4	5
11. I can save money by sewing items instead of buying them.	1	2	3	4	5
Other, please specify: _____	1	2	3	4	5
Other, please specify: _____	1	2	3	4	5

While you are in an apparel construction / sewing lab, how comfortable do you feel..	Very Uncomfortable	Uncomfortable	Neutral	Comfortable	Very Comfortable
1. Participating in class discussions?	1	2	3	4	5
2. Asking the instructor questions?	1	2	3	4	5
3. Asking a classmate questions?	1	2	3	4	5
4. Volunteering information?	1	2	3	4	5
5. Making mistakes and fixing them?	1	2	3	4	5
6. Trying something new?	1	2	3	4	5
7. Helping a classmate solve a sewing problem?	1	2	3	4	5
8. Accepting help from a classmate to solve a sewing problem?	1	2	3	4	5
9. Talking to classmates during lab?	1	2	3	4	5
10. Showing or sharing your work with a classmate?	1	2	3	4	5

ISU IRB # 1 09-219  
 EXEMPT DATE: 12 May 2009  
 Initial By: jlc

Please indicate how much you agree or disagree with each statement by circling the appropriate number. Please <u>circle only one</u> number per statement.					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I look forward to attending class.	1	2	3	4	5
2. I communicate with a classmate(s) outside of class.	1	2	3	4	5
3. I enjoy sharing my sewing interests with my classmates.	1	2	3	4	5
4. I don't mind missing class.	1	2	3	4	5
5. I feel as though I am part of a sewing community.	1	2	3	4	5
6. I enjoy spending time on sewing projects.	1	2	3	4	5
7. Sewing allows me to escape the pressures of my daily routine.	1	2	3	4	5
8. I am interested in class.	1	2	3	4	5
9. Creating something out of fabric makes me feel artistic.	1	2	3	4	5
10. I have realistic goals and a timeline to complete my sewing projects.	1	2	3	4	5
11. I value the ability to solve sewing problems.	1	2	3	4	5
12. I attend class regularly.	1	2	3	4	5
13. Things I make are/will be unique.	1	2	3	4	5
14. I like the idea that I could give someone something I made.	1	2	3	4	5
15. I would rather purchase than make an item to give as a gift to someone.	1	2	3	4	5
16. I can tell the difference between good and poor sewing skills.	1	2	3	4	5
17. I find fabric irritating and difficult to work with.	1	2	3	4	5
18. I feel good about myself when I work on a sewing project.	1	2	3	4	5
19. It is foolish to make something that a person could buy.	1	2	3	4	5
20. Sewing projects enrich my life.	1	2	3	4	5
21. I am developing myself as a person through sewing projects.	1	2	3	4	5
22. My sewing projects can trigger my memory of other people, times, or events.	1	2	3	4	5
23. Handcrafted items do not have a place in today's society.	1	2	3	4	5
24. Working on sewing projects can cheer me up if I feel down.	1	2	3	4	5
25. I am confident in my sewing abilities.	1	2	3	4	5
26. Projects I work on have meaning to me.	1	2	3	4	5
27. I don't want to give advice about sewing or anything else.	1	2	3	4	5
28. I care about the people I have met in class.	1	2	3	4	5
29. People in class care about me.	1	2	3	4	5
30. I give up on projects easily.	1	2	3	4	5
31. I am meeting personal goals when I sew.	1	2	3	4	5
32. I anticipate that sewing will be a part of my life after this class.	1	2	3	4	5
33. I don't want to hear about any of my classmates' problems.	1	2	3	4	5
34. Sewing helps me think creatively.	1	2	3	4	5
35. I value my classmates' ideas and perspectives, even if they are different from my own.	1	2	3	4	5
36. The feel of certain fabrics (like velvet or satin) is soothing to me.	1	2	3	4	5
37. I can make a product or an item that is soothing to me.	1	2	3	4	5
38. Taking this class has a positive effect on my life.	1	2	3	4	5
39. Touching fabric helps me forget everyday problems.	1	2	3	4	5
40. I enjoy shopping for fabric.	1	2	3	4	5

ISU IRB # 1 09-219  
 EXEMPT DATE: 12 May 2009  
 Initial By: j/c

Please indicate how much you agree or disagree with each statement by circling the appropriate number. Please <u>circle only one</u> number per statement.					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41. Sometimes I get so relaxed during sewing that it is almost spiritual and that is satisfying.	1	2	3	4	5
42. Sometimes I lose track of time when I am involved in a sewing project.	1	2	3	4	5
43. Overall, this was a good course.	1	2	3	4	5
44. I lose interest in sewing when the project is too complicated.	1	2	3	4	5
45. Failure just makes me try harder.	1	2	3	4	5
46. Sewing is an expression of my creativity.	1	2	3	4	5
47. I get easily frustrated with sewing projects.	1	2	3	4	5
48. Sewing inspires me.	1	2	3	4	5
49. Fabric inspires me.	1	2	3	4	5
50. Sewing is the right activity for me to be doing this term.	1	2	3	4	5
51. I do not seem capable of dealing with most problems that come up in class.	1	2	3	4	5
52. When unexpected problems occur, I don't handle them well.	1	2	3	4	5
53. This class increased my interest in the subject of sewing.	1	2	3	4	5
54. I can motivate myself to do my sewing projects.	1	2	3	4	5
55. I am confident of performing well in this class.	1	2	3	4	5
56. I learned a lot in this class.	1	2	3	4	5
57. I give up on things before completing them.	1	2	3	4	5
58. I feel insecure about my ability to do things in class.	1	2	3	4	5
59. I admire people who sew well.	1	2	3	4	5
60. The content of this class is meaningful for me.	1	2	3	4	5
61. If something in class looks too complicated, I do not try very hard at it.	1	2	3	4	5
62. I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5
63. Sewing is a valuable skill.	1	2	3	4	5
64. When I set important class goals for myself, I rarely achieve them.	1	2	3	4	5
65. I am able to concentrate on my sewing projects.	1	2	3	4	5
66. If I can't do a sewing task the first time, I keep trying until I can.	1	2	3	4	5
67. I finish my sewing projects by the time they are due.	1	2	3	4	5
68. I can work on my sewing projects even though there are distractions.	1	2	3	4	5
69. To complete my sewing projects I follow directions.	1	2	3	4	5
70. I remember information presented in class and textbook.	1	2	3	4	5

Please indicate how much you agree or disagree with each statement by circling the appropriate number. Please <u>circle only one</u> number per statement. These statements refer to your OVERALL feelings about this class.					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Overall, this class is enjoyable.	1	2	3	4	5
2. Overall, this class is frustrating.	1	2	3	4	5
3. Overall, this class is interesting.	1	2	3	4	5
4. Overall, this class is fun.	1	2	3	4	5
5. Overall, this class is boring.	1	2	3	4	5
6. Overall, this class is satisfying.	1	2	3	4	5

ISU IRB # 1 09-219  
EXEMPT DATE: 12 May 2009  
Initial By: jlc

Overall, I would rate the quality of my work that I did for this class as: Please circle one statement below.

Poor    A Lot Below Average    A Little Below Average    A Little Above Average    A Lot Above Average    Excellent

Please comment about what influenced you to describe the quality of your work in this way:

How would you describe your current attitude toward this class? Please circle one statement below.

Very Negative    Somewhat Negative    A Little Negative    A Little Positive    Somewhat Positive    Very Positive

Please comment about what influenced you to describe your attitude in this way:

Your comments will be appreciated.

Thank you for your help!

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