

University of Alberta

First Year Nursing Students' Adjustment
To Context-Based Learning

By

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Abstract

Students accustomed to conventional teaching approaches experience challenges adjusting to context-based learning (CBL). This study set out to describe the experiences of first year baccalaureate nursing students during initial exposure to CBL and identify characteristics contributing to their adjustment. A descriptive correlation design using self-report questionnaires for students in their first term, University of Alberta, Faculty of Nursing Collaborative Baccalaureate Nursing Program was used. The questionnaire, compiled from several instruments, measured uncertainty, coping, self-direction, ability to retrieve resources, and critical thinking dispositions. Data about self-confidence, group work, and communication was collected in focus groups. Correlation analysis revealed a positive, significant relationship between confidence and adjustment to CBL, as well as academic performance. Appropriate workload, and critical thinking dispositions were also positively related to adjustment, and truth seeking was positively related to performance. The findings contribute knowledge about nursing students' adjustment to CBL.

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CHAPTER 1: INTRODUCTION

Background

Baccalaureate nursing education is a challenging experience. Direct entry students in undergraduate programs range in age from late adolescence to middle adulthood and must meet developmental challenges associated with life stages, as well as the demands of advanced education. Baccalaureate nursing students experience high levels of stress as a result of large academic course workloads and clinical learning experiences (Gweele & Ulys, 1998). When these existing situational factors are combined with context-based learning (CBL), a different educational approach than students may have previously experienced as learners, it is not surprising that students experience a period of adjustment. This adjustment poses a challenge for nursing education as anxiety related to adjustment to CBL may impede students' learning during the early period of nursing education when basic foundational knowledge about nursing practice is addressed. There is support for the notion that students who are satisfied are more effective learners and that problem based learning (PBL) "enables discovery - by both teachers and learners - of whatever is most important in the improvement of knowledge and understanding" (Boud & Feletti, 1998, p. 44).

Changes in the nature of practice and the knowledge necessary to engage in practice, coupled with the growth of practice areas and increased specialization in nursing require a stronger reliance among professional nurses to engage in self-directed, lifelong learning using strong critical thinking, communication, and group skills. These outcomes are consistent with the principles of CBL and the goals identified by the University of Alberta Faculty of Nursing undergraduate baccalaureate program. The goals include providing a student-centered approach, building on previous knowledge, promoting life long learning, facilitating learning in a group, and integrating content using CBL as the primary teaching and learning approach.

Purpose and Research Questions

The purpose of this study was to describe the experiences of first year baccalaureate nursing students during initial exposure to CBL and identify the characteristics that contribute to their adjustment. Specifically, the research questions were as follows:

1. How do first year undergraduate nursing students describe changes in self-confidence, ability to engage in group work, and skills in communication over the period of their first term in CBL courses?
2. What students' characteristics contribute to their adjustment to CBL?
3. What is the relationship between uncertainty/ambiguity, coping with academic stress, ability to retrieve learning resources, and critical thinking disposition and adjustment to CBL?

Significance of the Study

The findings of this study will contribute to knowledge and understanding of students' adjustment to CBL in order to enhance effective teaching and learning strategies for this important group of students. Students will benefit because their adjustment to CBL will be positively impacted by a greater understanding of the factors that contribute to their adjustment. Faculty members will benefit from this study in their day-to-day teaching practice through the ongoing development of effective teaching and learning strategies. The profession of nursing will benefit as graduates of the baccalaureate program incorporate their learning into nursing practice. Ultimately, these benefits will contribute to quality patient and client care, the central focus of nursing across all practice settings - management, education, research and direct care delivery.

CHAPTER 2: LITERATURE REVIEW

Introduction

Several topic areas relate to the research questions including underlying theoretical frameworks associated with learning and cognition, adult learning theory/self-directed learning, PBL/CBL in nursing education, academic stress and adjustment, and the experience of stress and adjustment among nursing students, particularly first year students. A review of the literature reveals a substantial amount of research based on the theoretical foundations of adult learning and self-directed learning, which take into account the distinctions between pedagogy and andragogy (Boud & Feletti, 1998; Knowles, Holton, & Swanson, 2005). The process of CBL as defined in this paper is synonymous with the more widely used term, PBL. This topic is also highly prevalent in the literature, particularly since the 1980s when PBL gained prominence in post secondary educational programs for health disciplines (Boud & Feletti).

Much of the literature relates to medical students and involves research conducted to determine the outcomes of introducing PBL in medical curriculum compared with traditional (teacher focused, lecture based) programs (Kaufman & Mann, 1999; Rideout et al., 2002; Vernon & Blake, 1993). Early research focused primarily on academic performance; but there is a growing body of descriptive and qualitative research that considers the experiences and perceptions of students in a variety of disciplines (Biley, Smith, & MacDonald, 1999; Pedley & Arber, 1997; Rideout, 2001; Solomon & Fitch, 1998). This literature addresses some factors similar to those of interest in this study: strategies students use to manage and understand CBL (Biley, Smith, & MacDonald); influences on learning and performance (Morales-Mann & Kaitell, 2001); ways in which the PBL experience influences the acquisition of knowledge (Carey & Whittaker, 2002); and degrees of student satisfaction (Rideout et al., 2002). However, much of the literature deals with populations (e.g., physiotherapy students, medical students, senior year nursing students)

different than the one of interest for this research study - first year nursing students. These students are under-represented.

Similar gaps are found in the relevant literature addressing the concept of adjusting to and coping with the stressors associated with PBL. Most of the research is descriptive or qualitative in nature and based on self-report questionnaires, interviews, and content analysis (Brown & Edelmann, 2000; Hamill, 1994; Struthers et al., 1995). Again, the population of interest (first year nursing students) is not prevalent in the literature. For the most part, the focus is on students completing their undergraduate education or returning students in universities and colleges in a defined faculty or program. Therefore, there is a need to explore these issues with this unique group of learners in order to facilitate their learning during the early stages of baccalaureate nursing education when the foundation of nursing knowledge is being established.

Underlying Theoretical Frameworks

Adult Learning Theory, Self-Directed Learning and CBL

The work of Malcolm Knowles is considered classic in adult education and was cited by most authors in the literature reviewed for this study. He is known as the 'Father of Andragogy' and in the 1970s, he differentiated adult learning from pedagogy, the learning of children (Knowles, Holton & Swanson, 1998, p. v). Knowles identified six principles of andragogy: the learner's need to know, self-concept of the learner, prior experience of the learner, readiness to learn and motivation to learn. Adults differ from children in relation to these principles in several ways. The need to know in adults is expanded to involve the need to know why. The self-concept of the adult learner involves a responsibility to self that differs from the dependency of the child. Adults have more experience and are more heterogeneous than children. Adults are externally and internally motivated with internal motivators being more powerful. Their readiness to learn is richer in nature and the orientation to learning is more life-centered than subject-centered, as evident in children. Thus, the ideology of andragogy

is transactional, requiring self responsibility (Knowles, Holton & Swanson, 2005). These authors suggest “the need and capacity to be self-directing ... increases rapidly during adolescence” (p. 62); however, the “culture does not nurture the development of the abilities required for self-direction” (p. 62) and most people do not develop self-directedness until leaving school or college. Many first year undergraduate nursing students are in their late teens and early twenties (late adolescence), a period of transition between childhood and adulthood (Pillitteri, 2003). Nursing educators must be cognizant of the developmental tasks and challenges facing these young adults when applying principles of adult learning to this group of students.

Other Theories of Interest: Adult Development and Learning

In order to understand adult learning and to facilitate the adult educator in the role, it is essential to understand the theoretical frameworks and processes involved in adult development. Clark and Caffarella (1999) described developmental theory as a “schema consisting of four components: biological, psychological, socio-cultural, and integrative models” (p. 5). This representation of adult development suggests that nursing educators should recognize and understand students from a holistic view including consideration of: biological age and physiological function; psychological development (ego, cognitive, moral, and spiritual); and the socio-cultural aspects of maturing.

Adult learning has evolved since its inception based on the work of Knowles and others (Knowles, Holton, & Swanson, 2005) to include the concepts of transformational learning (Mezirow, 1998), informal learning (Marsick & Watkins, 2001), critical theory, and postmodernism (Kilgore, 2001). Transformational learning is “contextually grounded” and viewed from a cognitive-rational stance that involves social processes of interpreting meaning of one’s experiences as a guide to action (Taylor, 1997, p. 51). The model includes a number of components including a disorienting dilemma, cognitive activities (critical reflection, building confidence), and social relationships (exploring new roles) which result in the development of a new, more

discriminating perspective (Taylor). These components closely mirror the initial experiences of students in a CBL program.

Another learning theory relevant to CBL is critical theory. Kilgore (2001) identified key concepts of critical theory to include: knowledge is a rational process that is socially constructed from the learner's point of view; power is a factor, and how knowledge is framed and who can acquire it are determined in such a way that some groups are favored while others are oppressed; and learning takes place through communication, discourse, and critical reflection resulting in emancipating perspective transformation and action for social change. This perspective is relevant to this study because it addresses issues of equity and social justice which are foundational to the primary health care model, an underlying framework used in the Collaborative Baccalaureate Nursing Program at the University of Alberta. Critical theory is also congruent with prevailing thought in current nursing education. It acknowledges the need for a paradigm shift from an emphasis on behavioral outcomes to a more humanistic approach, including understanding of the broader determinants of health and social, political, and economic factors in health care reform (Boychuk Duchscher, 2000).

Williams (2001) identified the links between the constructivist perspective and instructional strategies used in PBL. Students actively construct knowledge by viewing situations (scenarios) through the lens of the professional nurse in small groups. Through collaboration and discussion, students acquire an appreciation for multiple perspectives. This approach enhances retention and retrieval of knowledge in future nursing situations. Students assume responsibility for their own learning and gain self-awareness through reflective activities.

PBL and CBL

Boud and Feletti (1998) described the origins and features of PBL, some of the challenges in implementing this approach in a curriculum, and new challenges in the evolution of PBL. The characteristics listed below are consistent with the conceptual definition and helps to frame the operational definition that was used in this study. Characteristics of PBL are: (a) using stimulus material to help students discuss a problem, question or issue; (b) presenting the problem as a real-life situation; (c) guiding students' critical thinking and providing limited resources to resolve the problem; (d) having students work in a group and exploring information outside of class and in class discussion with facilitation by a tutor; (e) getting students to identify their own learning needs and use appropriate resources; (f) reapplying the new learning to the original problem; and (g) evaluating their learning processes (Boud & Feletti, p. 2). These characteristics are also consistent with the principles of self-directed and adult learning articulated by Knowles (1975).

Early studies of PBL focused primarily on the performance of medical students. Two highly cited meta-analyses identified literature related to medical education and PBL (Albanese & Mitchell, 1993; Vernon & Blake, 1993). Based on students' test results, Albanese and Mitchell concluded that learners in PBL did not perform differently than those in traditional programs, while Vernon and Blake concluded that the data suggested significantly better performance by students in traditional programs. In a more recent quasi-experimental study of 243 medical students' achievement in conventional and PBL curricula, Kaufman and Mann (1999) reported that graduates of these two types of programs were equivalent after the completion of medical school and during post-graduate education. They further concluded that differences in communication skills between graduates of PBL and conventional programs needed further study.

Studies have also been conducted by those interested in the outcomes of PBL in the education of students in health disciplines. A qualitative study

conducted by Solomon and Fitch (1998) is particularly relevant to this proposal. These authors identified stressors associated with post-degree physiotherapy students' adaptation to PBL. Although the small sample size (n=40) and different target population limit the generalizability of these findings, the stressors identified in this study were similar to those found in the nursing literature and were of interest in this study. The stressors identified include uncertainty of knowledge required (depth and breadth), time needed for self-directed study, misunderstanding of PBL and the faculty role, and a lack of confidence. These factors provide support for the conceptualization of the characteristics of first year learners and their adjustment to CBL described in the purpose section.

PBL and CBL in Nursing

Williams (2001) described the theoretical links between PBL and self-directed learning for professional nursing education and provided further clarification of the assumptions and characteristics of the learner. She identified self-direction as a psychological need of adult learners and believed it is a foundation for "carrying out the activities associated with self-directed learning" (p. 89). However, she also reported a number of factors that contribute to autonomous learning. These include "familiarity with content, degree of technical skill, sense of personal competence as a learner, and the context of the learning situation" (p. 89). Ironside (2005) conducted a qualitative study to document how new pedagogies shift attention from memorization of content to an emphasis on thinking. This approach is congruent with CBL; however, she noted that this does not eliminate the need for presenting content to fill out or extend students' knowledge. This is particularly relevant for first year students who do not have the experiential knowledge to identify important areas of content in different contexts as presented in the scenarios used in CBL. The factors influencing autonomous learning are consistent with the conceptual definitions of *characteristics* used in

this study; specifically self-direction and self-confidence, content knowledge and skills in information retrieval.

Evidence concerning the outcomes of baccalaureate graduates from a PBL program compared to baccalaureate graduates from a traditional program provides further rationale for the concepts identified in this study's research questions. Rideout et al. (2002) compared students' perceptions of preparation for clinical practice, clinical functioning, knowledge and satisfaction with their education using a self-report questionnaire based on the Course Experience Questionnaire (CEQ) originally developed by Entwistle and Ramsden (1983). Based on the study results, students in the PBL program felt that they were "as well prepared as their conventional counterparts ... perceived preparation for clinical practice ... did not differ significantly, ... rated themselves higher in the areas of communication and teaching and learning ... as well as their knowledge of the health care system" (pp. 13-14). There were no significant differences in theoretical knowledge as measured by the national nursing association examinations. In addition, the PBL students "expressed significantly greater levels of satisfaction," particularly in the degree of independence offered in the program, communication, relationships with tutors, and the ability to problem-solve (p. 14). The usefulness of these results may be somewhat limited because of the use of self-report and the different populations. However, this work provided further rationale for the conceptual definitions, provided an example of sound research methodology, and identified potentially useful instruments for measuring the variables of interest.

Other nursing scholars have conducted program evaluations to determine how students manage and understand PBL in undergraduate programs. Biley, Smith and MacDonald (1999) conducted an ethnographic study in the United Kingdom, which involved participant observation and semi-structured interviews with 17 nursing students in their final year of a baccalaureate program. According to the participants, the issues included uncertainty of function, perceived insecurity regarding knowledge acquisition, understanding of group process and the role of the tutor, and perceived purpose of PBL. The

researchers concluded that the students did not value the skills learned as much as the fact-based knowledge and that the reconciliation with this approach to learning is difficult. A predominant theme identified by these authors is that of reconciliation or the students' "attempts to make sense of the PBL programme in terms of their existing constructions of the meaning of education" (p. 1211). I interpret this concept and definition to be highly congruent with the concept of adjustment as described in this study.

Adjustment

A search of the literature for the concept of adjustment to PBL by nursing students led me to explore sources that addressed the topic of academic stressors and how these might relate to adjustment. This search resulted in the identification of several useful instruments.

Sarafino and Ewing (1999) studied 18-24 year-old undergraduates to determine the role of stress in psychological adjustment. They developed a 54 item Hassles Assessment Scale for Students in College, to self-rate these 54 hassles for frequency, unpleasantness, and the degree to which students dwelt on the hassles. The instrument's reliability (internal consistency) using Cronbach alpha coefficients for the three subscales were: ".90 for frequency, .92 for unpleasantness, and .93 for dwelling" (p. 81). The instrument also demonstrated concurrent validity in that there was a significant correlation with scores on the Inventory of College Students Recent Life Experiences, an established scale for assessing student hassles: ".46 with frequency, .46 with unpleasantness, .46 with dwelling, and .43 with the summed products estimate" (p. 81). Construct validity was determined using factor analysis. They found that "32.8% for the frequency subscale, 35.3% for the unpleasantness subscale, and 37.3% for the dwelling subscale" (p. 81) accounted for the variance, suggesting that the items are independent. This instrument was reliable and valid for assessing three dimensions of student stress.

Baker and Siryk (1986) developed the Student Adaptation to College Questionnaire (SACQ) based on the assumption that adjustment to college is multifaceted with a variety of demands and coping responses to meet these demands. The instrument is a 67 item questionnaire with four sub-scales; Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Goal Commitment-Institutional Attachment. The instrument yields scores for each of the subscales as well as a full-scale score as an index of overall adjustment to college. Reported reliability by Beyers and Goosens (2002) demonstrated good internal consistency (Cronbach alpha > .80). In addition, results of 28 studies “show statistically significant relationships between personality variables measured using some well-known instruments and the SACQ” (Dahmus & Bernardin, 1992, p. 142). Baker and Siryk (1986) also noted that student adjustment may differ in each of the four subscales. For example, a student may be simultaneously relatively well adjusted academically and less well adjusted socially. This provides rationale for considering selected variables related to adjustment in this study.

There is a body of literature addressing the issue of academic stress among post secondary students based on the coping style framework developed by Lazarus and Folkman (1984). Research indicates that people respond to stressful events in three stages: (a) realizing a threat; (b) determining potential responses; and (c) executing a coping response. The response takes the form of problem focused coping (PFC) or emotion focused coping (EFC). Struthers et al. (1995) used Carver’s COPE Inventory, a generic instrument, to develop an instrument more specific to college students. They conducted two studies to assess dispositional coping strategies in college students to examine relationships among student stress, coping style, motivation, and performance using the Student Coping Instrument (SCOPE). The results of the first study conducted to develop and refine the scale to measure stress and coping style indicated that this instrument was reliable “within acceptable limits, overall $\alpha = .80$, problem-focused coping $\alpha = .80$, and emotion-focused coping $\alpha = .70$ ” (p. 7). Construct validity included problem-

focused coping “correlating positively with optimism ($r = .51$) and inversely with stress ($r = -.31$). Emotion-focused coping correlated positively with optimism ($r = .19$) and inversely with stress ($r = -.12$)” (p.8). A second study was then conducted to examine the relationship among stress, coping style, academic motivation, and course grade. Correlation coefficients using the Comparative Fit Index (CFI) were found to be .995. Stress at the beginning of the academic year directly and positively predicted the use of problem-focused coping ($\beta = 0.44$), and emotion-focused coping ($\beta = 0.45$), motivation ($\beta = 0.53$), and inversely predicted course grade ($\beta = 0.40$) (Struthers et al., p. 11). Coping style was related to motivation and performance; and the relationship between stress and performance was buffered by students’ academic coping style and motivation.

Arthur (1994) explored the influences of age on demands and coping of post secondary student using COPE, Beck Depression Inventory, Beck Anxiety Inventory and the Inventory of Student Demands with a sample of 56 students in a 2 year academic program at Southern Alberta Institute of Technology (SAIT). She found that direct entry students (18-19 years of age) used more EFC and disengagement strategies than more mature students. She suggested that “lack of control over situational demands was linked to higher levels of stress” (p. 14) and older students’ life experiences resulted in more selective coping strategies from a broader repertoire of skills.

These studies provide useful information about measurement instruments that have been used with other populations to measure variables closely related to questions of interest in this study.

Adjustment and Stress Among First Year Nursing Students

There is a gap in the literature with respect to first year nursing students as evident by the studies available. Ofori and Charlton (2002) built and tested a model to describe some of the psychological processes related to academic

performance among pre-registration diploma nursing students over three semesters. The sample of 344 students ranged in age from 18 to 50 years with a mean age of 26. They suggested that seeking academic support was a better indicator of performance than good entry qualifications. They also found that younger students were less willing to seek academic support, thus placing them at potential risk for poor performance and withdrawal from their program of study.

Sedlak (1999) described differences in critical thinking of nursing students aged 23-29 years (nontraditional) and nursing students entering the nursing program directly from high school (traditional) in a qualitative study with 11 participants in their sophomore year. She found both groups of students did think critically and both groups focused more on the affective and cognitive aspects of their first clinical experience than on psychomotor skills. Students often asked for help in learning how to balance emotions and “nontraditional students were better able to disengage from their emotions to function in a more calm, professional, and competent manner” (p. 41). Nontraditional age students developed self-confidence more quickly in the clinical setting and were more flexible in adjusting to a new environment. They also relied more on internal sources of motivation and positive feedback, in contrast with traditional age students who relied on patients as sources of motivation and affirmation. The traditional students were more likely to express feeling overwhelmed with their limited knowledge; while nontraditional students were comfortable with not knowing everything and sought out needed information. The application of past learning and life experiences was used more readily by nontraditional students than by traditional students whose “anxiety often inhibited their use of past experiences” (p. 42). The extent to which these results can be generalized is limited by the small sample size and a different sample (second year students) than in this research project. However, the authors illustrate the potential for differing educational needs of undergraduate nursing students based on age.

Jones and Johnston (1997) measured levels of affective distress, sources of stress, and coping strategies reported by first year nursing students in a diploma preparation course in Scotland when students were experiencing an initial series of hospital placements. They compared their findings to a similar study of degree nursing students conducted by Beck, Hackett, and Srivastava (1997). Levels of affective distress reported by diploma students were significantly greater than those reported by nursing students across four years of the degree program. Common sources of stress in both studies included academic aspects (fear of failing, lack of free time, long hours of study, and the college response to student need). They also found that the use of PFC was associated with lower levels of distress. Direct coping was associated with low levels of distress and non-direct coping (hostility and wishful thinking) was associated with high levels of distress and was less adaptive.

Williams, MacDermid, and Wessel (2003) described perceptions of adapting to PBL among physiotherapy master's level students. They found students were initially overwhelmed but quickly developed strategies to address the challenges of the demands of PBL. Themes associated with adaptation to PBL included learning more effective methods of accessing information, establishing their own learning structure, coping with stress, receiving confirmation of learning, being aware of group dynamics, and recognizing the difficulty and value of giving and receiving feedback. The participants saw the value of PBL to their learning and clinical practice.

Worrell (2005) conducted an exploratory study to investigate factors related to the CBL adjustment as perceived by first year and post RN nursing students and to determine if there were differences between these two groups of learners. One focus group interview was used with each cohort (first year nursing students and post RN students) enrolled in their first term of study in a baccalaureate nursing program. Five themes emerged from the data: uncertainty about knowledge acquisition and the CBL process itself; group work, both benefits and challenges; self-direction and self-responsibility; the tutor role; and stress due to workload and time involved in self-directed study.

Both groups described their initial period of adjustment to CBL to be stressful and full of uncertainty. To cope with this stress, both groups indicated the use of EFC and PFC; however, first year students' interview data revealed the use of EFC to a greater extent than the post RN students' interview data. First year students reported strategies such as getting support from others, discussing their feelings, and disengagement. Post RN students described active study strategies and academic planning. Examples included following a weekly schedule, setting aside time for family and social activities, and engaging in regular physical activity. Both groups noted challenges related to managing group dynamics and conflict and the need to develop facilitation skills. They reported impediments to adjustment as follows: ambiguous nature of CBL, lack of introductory information about CBL, and time demands. First year students also found group formation and reformation, differences in tutor approach, and dealing with group conflict as hindrances to learning. Both groups expressed a strong need for more guidance and direction early on. Many felt they were floundering and the adjustment period would be enhanced with more detailed information about the CBL process and more direct tutor involvement (Worrell).

Summary of Major Points

The review and analysis of the literature has served to clarify the topic of interest and has contributed to the development of a conceptual framework (Figure 1) and conceptual and operational definitions of the key terms included in the research questions. The theoretical basis of a learner-centered approach to adult education suggests that CBL is an appropriate and perhaps optimal method for designing and delivering baccalaureate nursing education. Yet, a review and analysis of the published research indicates mixed results regarding performance outcomes and experiences of students in CBL/PBL programs and gaps in the literature specific to the population of first year students. This is a perplexing dilemma and furthers my curiosity about: Who adjusts to CBL and who does not? Why? What are the implications for

designing a program using CBL? How should applicants for admission to a CBL program be selected? What strategies would facilitate early adjustment to CBL?

Conceptual Framework

The conceptual framework presented in Figure 1 depicts adult learning theory as an all-encompassing concept because the learners are young adults. The environment also encompasses students throughout the process of adjustment to CBL. The student enters the program with a set of characteristics defined as attributes, skills and knowledge. During the initial period of study in CBL courses, there is uncertainty and an attempt, on the part of the student, to make sense of this new way of learning. As the student progresses, skills and knowledge required for successful adjustment becomes clearer. The research questions in this study focus on the learner; but other factors such as the external environment, which includes work and family responsibilities and the tutor role, are also included in the conceptual framework to ensure they are not overlooked. The scope of this study does not permit an examination of all of these factors; however, the results of the research will shed light on the issue and may identify potential areas for further study.

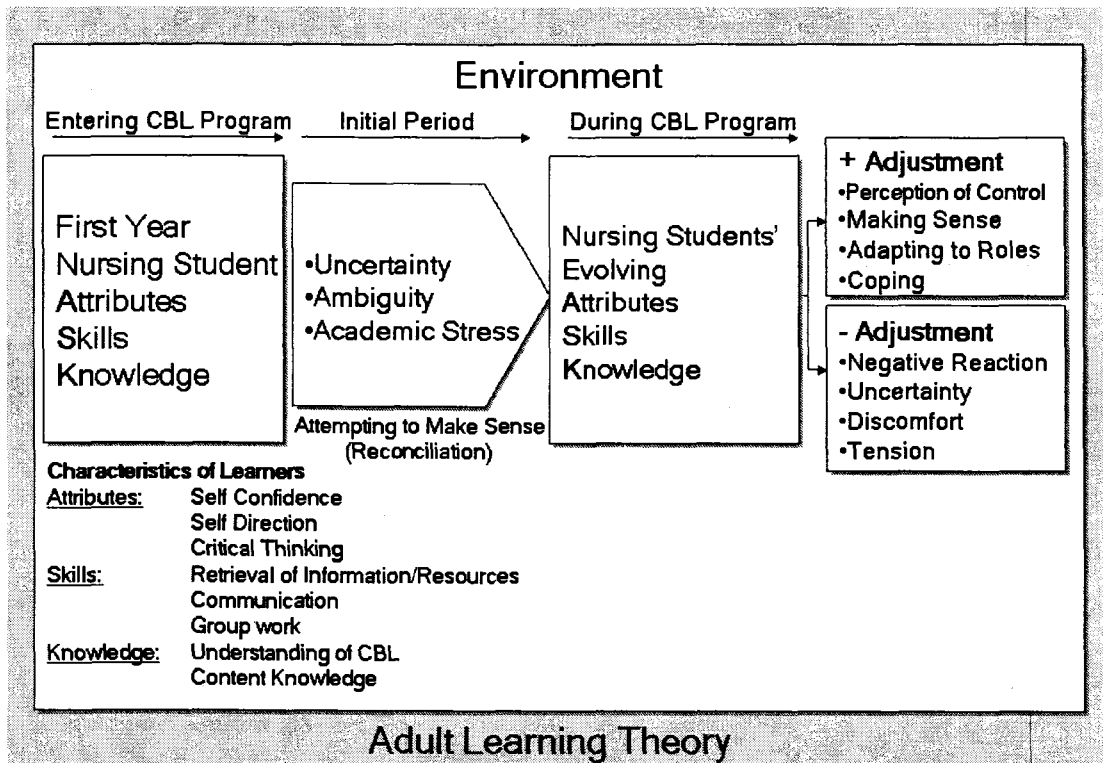


Figure 1. A conceptual framework of key elements leading to nursing students' adjustment to CBL

Conceptual Definitions

CBL is a strategy providing students the opportunity to learn and apply concepts stimulated by a real-life scenario. The scenario is a vehicle by which students identify individual and group learning needs and investigate information to meet those identified needs. The information is shared within a group setting; and as such students learn effective group process skills (Wolff, 1998 as cited in Faculty of Nursing, University of Alberta, 2004).

A *first year nursing student* is an individual enrolled in a baccalaureate nursing program who comes to the learning situation as young adult with knowledge, experience and skills. The student also has a number of social roles and personal responsibilities.

Characteristics refer to distinguishing features or qualities typical of an individual. For the purpose of this study, the characteristics to be explored

consist of three categories - *attributes, skills, and knowledge*. The attributes include *self-confidence, self-direction, and critical thinking dispositions*. Skills refer to competencies relevant to CBL including *retrieval of information and resources, communication, and group work*. Knowledge includes an *understanding of CBL and mastery of content* (Williams, 2001).

Adjustment refers to the action of setting right, harmonizing or adapting to changed circumstances (Webster, 1988a). Related terms include accommodating, reconciling, balancing or steadying (Webster, 1988b). Adjusting to undergraduate education involves a number of related concepts that include *feeling in control* of the situation, *making sense* of the situation, *adapting* to changes in roles, and *coping with the stressors* associated with going to school (Brown & Edelman, 2000; Hamill, 1994). Adjustment is also referred to in the literature as coping with academic stress (Struthers, Perry, & Menec, 2000). For the purposes of this study, academic stress is conceptually defined using the definition by Lazarus and Folkman (1984) who assert that stress is a “relationship between an individual and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p. 19).

Operational Definitions

The operational definition of *CBL* is based on the work of Williams (2001) and Boud and Feletti (1998). The key features of CBL are reliance on the use of scenarios and students working in small groups to investigate a nursing situation through self directed study and collaboration with classmates. Two courses in the Faculty of Nursing’s first year undergraduate curricula are designed in this way (Nursing 190 and Nursing 194). The students are presented with nine scenarios during these two six-week courses. Full-time students are also registered concurrently in three other courses delivered using a traditional lecture style format. These are Medical Microbiology (MMI

133); Nursing 140 - Anatomy; and Nursing 150 - Physiology (Faculty of Nursing, 2006a).

A first year baccalaureate nursing student is defined as an individual enrolled in the Collaborative Baccalaureate Nursing Program at the University of Alberta. This four year program is aimed primarily at high school graduates and those with some post-secondary education (Faculty of Nursing, 2006b). Entry to the program occurs annually each September. For this study, the target group was one cohort of approximately 167 first year students completing their first semester (fall term 2006) in the Collaborative Baccalaureate Nursing Program.

The elements included in the term, "*characteristics*" (*attributes, skills, and knowledge*) were measured using self-report questionnaires and focus group interviews. Existing instruments with reported reliability and validity were used wherever possible. Investigator-developed items and focus group data were used to understand those variables that were not identified in instruments reported in the literature review. The *attributes* (*self-confidence, self-direction and critical thinking*) were measured using a self-report questionnaire; and focus group data concerning self-confidence added further information about this variable. The first *skill* identified, *retrieval of learning resources*, was measured by scores on self-report questions. The remaining two skills, *communication and group work*, were described as part of the focus group data. The final component of the characteristics explored in this study is *knowledge*, which for the purposes of this study includes understanding of CBL and content knowledge. *Understanding of CBL* was described using responses to an open-ended question in the questionnaire and additional information obtained in the focus group data. Content knowledge of nursing concepts is reflected in the final grades achieved by the participants in Nursing 194.

The elements included in the concept "adjustment" are perception of control, making sense of CBL, and coping with academic stress. These terms relate to first year nursing students' attempt to reconcile with the uncertainty and ambiguity experienced when they enter the nursing program and find that

the approach (CBL) used in some of their courses is different from what they experienced in the past and not what they expected. The experiences of uncertainty/ambiguity and coping were measured using self-report questionnaires. Adjustment was measured using the final grade in the selected course (Nursing 194) and student self-reported level of adjustment and understanding of CBL.

CHAPTER 3: RESEARCH METHODS

Research Design

A descriptive correlation design was used for this study. This design is appropriate to describe relationships among variables for a particular problem that is not amenable to experimentation (Loiselle, Profetto-McGrath, Polit, & Beck, 2007) and is in keeping with the purposes of this study. The correlational approach is a means to establish the strength and direction of relationships between two or more variables (Brink & Wood, 2001) and “many variables can be analyzed simultaneously” (Gillis & Jackson, 2002, p. 377). The major disadvantage of this design is that it cannot be used to conclusively reveal causal relationships.

Setting and Sample

The University of Alberta, Faculty of Nursing was chosen as the setting for this study because the researcher has first hand knowledge of the undergraduate baccalaureate nursing program and use of a CBL approach as an instructor for first year students. A number of faculty members are currently studying aspects of program evaluation and critical thinking that are in line with those in the current study; however, the target group of first year learners has not been extensively studied. The demographic characteristics of this group of students are different than those of nursing students in the other undergraduate programs and this study provides useful information that builds on what is known about students' experiences with CBL and learning outcomes.

The Faculty of Nursing admits approximately 170 students to the four year baccalaureate program. The final number of first year students enrolled,

section allocations and instructor assignments were confirmed with the Year One Coordinator at the beginning of the fall term in 2006. Nursing 190 and 194 are offered consecutively in the first term of study and students commencing the program were divided into six sections for these courses. Each section consisted of two tutorial groups averaging 14 students in each. The cohort of students also meet for weekly Fixed Resource Sessions (FRS) which provide an opportunity for the delivery of nursing content related to the scenarios by guest speakers, often in a lecture format. Nursing 194 was selected to recruit the sample because this course is one of the initial nursing courses where students are exposed to CBL and meets the eligibility criteria of being near the end of their first term of the undergraduate baccalaureate nursing program.

The relatively small number of students limited the use of random sampling. Therefore a convenience sample was used to recruit participants for the questionnaire component of the study. The sample size estimate was determined using power analysis. Based on an alpha of 0.05 and power of 0.80 for a one-sample correlation and assuming a moderate effect size of 0.30, the sample size for a two tailed test was calculated using the formula as outlined by Cohen (1977, p. 135-138).

$$N = [n_{.30} - 100q^2] + 3$$

$$N = [177 - 3/100(.09)] + 3 = 22.33$$

The sample size calculation above indicated that at least 23 completed questionnaires were needed for correlation analysis using Pearson r.

To achieve sufficient data to ensure common themes across focus group discussions, at least 3 groups of 8-9 participants were required (Kleiber, 2004). Therefore, response rate was a primary consideration for this study. Using the class list, sixty students were randomly chosen to receive an invitation to participate in a focus group interview. Additional strategies used to address response rate are addressed in subsequent sections of this report.

Data Collection Methods

Data for this study were collected using a questionnaire and focus groups. Table 1 summarizes the learner characteristics and related measurement tools. The First Year Nursing Student Questionnaire (FYNSQ) is composed of three parts (Appendix A): (a) Background Questionnaire (investigator-developed); (b) The Course Experience Questionnaire (CEQ) (Wilson, Lizzio & Ramsden, 1997); and (c) The Student Coping Instrument (SCOPE) (Struthers, Perry & Menec, 2000). Data collected separately by the Collaborative Program Evaluation Committee using the California Critical Thinking Disposition Inventory (CCTDI) (Facione & Facione, 1992) was also used (Appendix B). The data from the FYNSQ related to uncertainty/ambiguity, coping with academic stress, self-direction, ability to retrieve learning resources, and adjustment to CBL. Data from the CCTDI provided information about students' critical thinking dispositions, self-confidence and self-direction. Focus group interviews were used to obtain data about students' changes in self-confidence, group work, and communication in the initial period of adjustment to CBL. The FYNSQ was pre-tested with a selected group of 30 second year collaborative program students and first year after degree program students to determine face validity, content validity and internal consistency of the items in each of the sub-scales and how well the items in the scale are interrelated.

Questionnaire Part A: Background

Eight investigator developed items in this section serve to obtain demographic data including age, gender, marital status, employment status during the program, part-time versus full-time status, years since graduating from secondary education, other education, and work experience. Eight additional items measured students' ability to retrieve learning resources, as this student characteristic was not found in existing instruments reviewed by the investigator. These items included a 5-point Likert scale anchored by (1) definitely disagree to (5) definitely agree to be congruent with Part B of the

questionnaire. This portion of the questionnaire took approximately 5 minutes to complete.

Table 1

Learner Characteristics and Related Assessment/Measurement Tools

Learner Characteristics	Assessment/Measurement Tools
Attributes:	
Self confidence	Focus group interviews, CCTDI confidence subscale
Self-direction	CEQ independence subscale (Part B), CCTDI inquisitive subscale
Critical thinking	CCTDI total score
Skill:	
Retrieval	Investigator developed questions (Part A)
Communication	Focus group interviews
Teamwork	Focus group interviews
Knowledge:	
Understanding of CBL	Focus group interviews, investigator-developed questions (Part B)
Content knowledge	Final grades for Nursing 194
Experience of adjustment:	
Uncertainty/ambiguity	CEQ clarity of expectations subscale (Part B)
Academic stress	SCOPE (Part C) CEQ workload subscale (Part B)
Adjustment outcome:	
	Final grades for Nursing 194 Focus group interviews Investigator-developed questions (Part B)

Questionnaire Part B: CEQ

The CEQ evolved from the work of Entwistle and Ramsden (1983) and is based on the premise that student learning is strongly connected to satisfaction with a course. The CEQ was developed by Ramsden (1991) and has been widely tested and used extensively in post secondary institutions in the UK and Australia. Several length versions of the instrument (36, 30 or 23 items) exist. The original 30-item version contains five sub-scales (good teaching, appropriate workload, appropriate assessment, clear goals and standards, and emphasis on independence). The more recent 36-item version includes a sixth sub-scale (generic skills). The 23-item version contains all of the generic skills scales; shortened versions of the good teaching, appropriate workload, appropriate assessment and clear goals and standards scales; and excludes emphasis on independence scales. Wilson, Lizzio and Ramsden (1997) conducted a study using three large multidisciplinary samples of students and graduates from several universities ($n = 1362, 2130$ and 7373) to confirm validity and reliability of the 36 and 23 item versions and concluded both forms were “valid, reliable and stable” (p. 47) instruments. The short version of this instrument was also used by Espeland and Indrehus (2003), in a large study of 276 nursing students from three university colleges in Norway to determine student satisfaction and to measure the reliability and validity of the questionnaire. They measured internal reliability of sub-scales using the Cronbach coefficient and found that the scales correlated significantly with overall satisfaction ($p < 0.01$). Clear goals and appropriate workload scores loaded significantly in the factor analysis ($p < 0.05$). Rideout et al. (2002) used the long version with a sample of 76 baccalaureate nursing students and reported reliability values of 0.80 or greater for each sub-scale.

The CEQ is appropriate for use when it is “regarded as a measure of teaching process, results used to improve student learning outcomes, and results used to ...make judgments about how to improve student outcomes” (Wilson, Lizzio & Ramsden, p. 49). These are in keeping with the purpose of this research. Three of the sub-scales in this instrument measure students’

perception of factors that parallel those of interest in this study, particularly clear goals and standards (uncertainty/ambiguity), appropriate workload (coping with academic stress and emphasis on independence (self-direction). Therefore, a 15-item version of this instrument containing three sub-scales was used for Part B of the questionnaire, CEQ. A shortened version was selected for two reasons; (a) the sub-scales have consistently been reported as reliable regardless of the CEQ version used (varying lengths), and (b) it is desirable to keep the questionnaire at a reasonable length to avoid response rate bias (Hutchinson, 2004).

Eight additional investigator developed items, including an open-ended question, were included to obtain students' self-rating and description of their understanding of and degree of adjustment to CBL. These final questions helped to determine the extent to which students' perception of adjustment related to final grade achieved in the course. This part of the questionnaire uses a five-point Likert scale anchored by (1) definitely disagree to (5) definitely agree and it is anticipated that it will take approximately 5 minutes to complete.

Questionnaire Part C: SCOPE

In order to measure the relationship between academic stress and adjustment, a questionnaire developed by Struthers et al. (1995) and further tested by Struthers, Perry, and Menec (2000) was selected for use in the current study. The SCOPE instrument has been used to examine relationships among academic stress, coping, motivation and performance in college students. Factor analysis resulted in eight sub-scales; four to measure problem-focused coping (PFC) and four to measure emotion-focused coping (EFC). PFC involves thoughts and actions to alter the source of a stressful event. The PFC sub-scales are entitled academic planning, general active coping, efficacy, and active study coping. EFC involves thoughts and actions to manage the emotional distress associated with a stressful event. The EFC sub-scales are general emotional support, denial, emotional venting and academic disengagement. Reported reliability of SCOPE is "within acceptable

limits, overall $\alpha = .80$, PFC $\alpha = .80$, and EFC $\alpha = .70$ (p. 585). Stress at the beginning of the academic year directly and positively predicted use of problem-focused coping ($\beta = 0.44$), emotion-focused coping ($\beta = 0.45$), and motivation ($\beta = 0.53$); and inversely predicted course grade ($\beta = 0.40$) (Struthers et al., p. 11). These results provide rationale for using the SCOPE instrument to measure the relationship between coping with academic stress and adjustment as measured by performance (final course grades) in this study.

Part C consists of 30 items. The students are asked to respond to a stem asking them how they characteristically respond to doing poorly on a test at school using a 10-point Likert scale ranging from (1) extremely uncharacteristic to (10) extremely characteristic. This portion of the questionnaire takes approximately 5 minutes to complete.

Additional Data: CCTDI

A number of instruments have been developed to measure critical thinking and critical thinking dispositions. Evidence suggests that critical thinking dispositions (CTD) are important to critical thinking skills (CTS) and that there is a significant relationship between CTS and CTD (Profetto-McGrath, 2003). Others also indicate that CTD are essential for both CTS and cognitive development (Rapps, Riegel & Glaser, 2001). The CCTDI has been used extensively among nursing students and is considered to be "the most up-to-date instrument available with acceptable levels of reliability and validity" (Profetto-McGrath, p. 572). In a study of 228 nursing students enrolled a four year generic baccalaureate program, she found overall Cronbach alpha internal consistency reliability coefficients and overall instrument alpha reliability to be .91. Rapps, Riegel, and Glaser used this instrument with a sample of 290 registered nurses who were graduates of a baccalaureate nursing program and had been practicing for a minimum of two years. In their study the overall instrument alpha coefficient reliability was .91 with subscale scores ranging from .71 to .80. In addition, "construct validity was supported with significant correlations between individual subscales and established

psychological measures; and the alpha coefficient reliability for the total scale was .80" (p.617). Therefore, the CCTDI developed by Facione and Facione (1992) was selected for this study (Appendix B).

This instrument is administered to first year students in September of each year as part of the program evaluation conducted by the Administration Council, Collaborative Program. This committee gave permission to use the results of this instrument to avoid having the students complete a second CCTDI. Students were asked to provide consent for the release of their respective data. The instrument consists of 75 items across 7 subscales; truth-seeking, open mindedness, analyticity, systematicity, confidence, inquisitiveness, and maturity. The subscales confidence and inquisitiveness fit two of the variables of interest in this study, self-confidence and self-direction. In addition the variable, critical thinking is reflected in the whole instrument. The 75 declarative statements are answered using a 6-point Likert scale anchored by (1) strongly agree to (6) strongly disagree. It can be completed in 20 minutes.

Maximizing Response Rate

Strategies to maximize response rates were important in order to achieve the estimated sample size of 23 completed questionnaires. Gillis and Jackson (2002) identified strategies: (a) professional appearance of materials (cover memo and questionnaire) to establish legitimacy; (b) a simple and non-threatening questionnaire that is easy to complete; (c) an offer to provide a report to respondents; (d) the use of clear and sensitive wording that is sequenced in a meaningful way to encourage candor and cooperation. The investigator was able to control the overall appearance of documents and sequence each instrument in a meaningful way. The questionnaire begins with background demographic information which is easy to complete and non-threatening in nature. The next section includes the investigator developed items relating to the retrieval of learning resources (behavioral) followed by the items from the CEQ (affective). This part of the questionnaire also includes the remaining investigator developed questions related to students' perspective on

understanding of CBL and adjustment to CBL (emotional). Items are arranged in random order. Thus, the 5-point Likert scale items are grouped together. The final section includes the items found in SCOPE presented in random order. This part uses a different rating scale and may be viewed as the most sensitive area of the questionnaire (coping with stress); therefore it was positioned at the end.

Threats and Control Strategies

Response rate bias includes social desirability, extreme response set bias, and acquiescence response set bias. These can be overcome using counterbalancing (positively and negatively worded statements), sensitive wording, non-judgmental wording and a guarantee of confidentiality (Loiselle, Profetto-McGrath, Polit, & Beck, 2007). As noted in this report, these factors were considered and controlled through such measures as attention to wording, use of tested instruments, and disclosure of measures to ensure participant confidentiality. In addition, the use of protocols such as a fixed script and impartial research assistants during data collection helped to control response bias.

Some response rate factors are beyond researcher control and include the type of respondent, sponsoring agency, and salience of topic to respondent (Loiselle et al., 2007). In this study, the respondents are from a single cohort of students and descriptive statistics determined the degree of similarity among them. The sponsoring agency, the University of Alberta, Faculty of Nursing Graduate Studies is credible and highly legitimate. Based on the experience of the investigator in teaching this group of students, the salience of the topic under study is high among the participants.

Pre-Testing the FYNSQ

The FYNSQ was reviewed by first year nursing instructors and volunteer students from second year of the Collaborative Baccalaureate Program (5

students) and first year of the After Degree Baccalaureate Program (25 students) to determine face and content validity of the instrument. The students also completed the questionnaire and were able to do so readily in 15 minutes. As a result, the time for completion on the student information letter was adjusted to reflect this time frame (allowing additional time to complete the written consent forms). Students completing the questionnaire found it to be straight forward and understandable, however minor wording changes were made to improve clarity of some items. Some students commented that the 10-point Likert scale used on the SCOPE instrument was more difficult to complete than the 5-point scales used in the remainder of the questionnaire. However, in view of the extensive testing of the instrument using the original 10-point scale, the scale was left unchanged to maintain integrity of the instrument. See Appendix C for details of revisions made to the FYNSQ.

Both students and instructors felt that the instrument reflected the research questions and were relevant to the experience of adjusting to CBL. A number of suggestions for additional topics were made. After considering these suggestions, they found to be captured in the focus group questions and CCTDI data and thus, were not added to the FYNSQ.

The internal consistency of the sub-scales was assessed using Cronbach alpha statistic computed by the Statistical Package for the Social Sciences (SPSS) Student Version 11.0. This version of SPSS was used for data analysis throughout the study. Table 2 shows these internal consistency reliability coefficients. The independence sub-scale (CEQ) alpha was estimated to be .45 and considered unacceptably low (Gillis & Jackson, 2002). This set of items was removed and replaced with 5 investigator developed questions more specific to CBL (see Appendix C). These will hereafter be referred to as *emphasis on independence*. The two SCOPE sub-scales' alpha estimates were also somewhat lower coefficients than is generally accepted; however general active coping (alpha .68) and academic disengagement (alpha .57) were retained because the present study did not consider each sub-scale; rather, the two main scales of PFC and EFC were of interest in the research

question. The Cronbach alpha was estimated to be .86 for PFC and .76 for EFC. These are above the generally accepted value of .70 used in decision-making for item retention in questionnaires (Rattray & Jones, 2007).

Table 2

Cronbach Alpha Estimates FYNSQ Pre-Test

Variable	Alpha (α)
CEQ clear goals	.74
SCOPE - PFC:	.86
Academic planning	.89
General active coping	.68
Efficacy	.79
Active study coping	.76
SCOPE - EFC:	.76
General emotional support	.94
Denial	.76
Emotional venting	.80
Academic disengagement	.57
CEQ appropriate workload	.72
CEQ emphasis on independence	.45
Retrieval	.75
Adjustment	.80

Factor analysis of the sub-scales measuring uncertainty/ambiguity (CEQ clarity of expectations), coping with academic stress (PFC, EFC, and CEQ appropriate workload), self-direction (CCTDI inquisitiveness), ability to retrieve resources, critical thinking dispositions (CCTDI Score), and adjustment (adjustment score) indicated the variance of individual items and covariance between the items. The items demonstrated appropriate values and none had reliability ($< r = .25$) indicating they should be removed from the final version of the questionnaire (Hayes, 1992).

Data Collection Procedure: FYNSQ

I met with the first year teaching team to discuss the project and provided them with an information letter (Appendix D). Access to students during the weekly scheduled FRS was prearranged with the year coordinator and instructors. These confirmed scheduled dates for data collection necessitated changes to the timeline; therefore the revised protocols were submitted to and approved by the HREB.

One week prior to the scheduled visit to explain the study, copies of the student information letter (Appendix E) were given to the year coordinator for distribution during the fixed resource session. The following week, I explained the study to students. To avoid investigator bias, a research assistant (RA) was employed to administer the questionnaire at the end of the FRS in the first week of December, 2006. Using a fixed script, the RA described the study and the involvement required. Students who consented to participate and to release information (Appendix F) were given 20 minutes to complete the questionnaire. Questionnaires were coded using participants' unique seven digit student identification number to permit correlation with final course grade and scores on the California Critical Thinking Dispositions Inventory (CCTDI) (Facione & Facione, 1992).

The RA collected 97 completed questionnaires and placed them in a sealed envelope. The signed consents were placed in a separate sealed envelope. Both were delivered immediately to the investigator for safe keeping in separate locked cabinets.

Data Collection: Focus Group Interviews

Focus groups provide a rich source of data when the area of interest is the result of social interaction. They are useful for identifying perceptions, opinions

and attitudes about the research topic that may not be available through surveys or individual interviews. Lunyk-Child et al. (2001) have identified other advantages of focus groups as follows: (a) rapid and cost effective method to gain participant views; (b) group setting facilitates expression of ideas; (c) ideas of group members are built on by others in the group; and (d) group setting enables hearing from a larger number of participants than if individual interviews were employed. In this study, the focus groups were useful in combination with the questionnaire to obtain qualitative data that contributed to interpretation of the data. To explore the use of the focus group interview as a data collection strategy and to explore the topic of adjustment with a similar population, a pilot study was conducted with first year baccalaureate students in fall 2005 (Worrell, 2005). The questions for this proposed study are based on the work from the pilot study (Appendix G).

Students were made aware of the focus group component of this study when they received the information letter during class during the week of November 20. During that week, 60 students were randomly selected from the class list and received an invitation to participate in a focus group interview (Appendix H). Those who were interested were asked to contact me by e-mail indicating their preferred dates and times. A follow-up e-mail was sent to confirm participation and final arrangements for the focus group interviews.

At least three groups were needed to ensure sufficient data to identify common themes across groups and to identify data that might be generated from an idiosyncratic group (Kleiber, 2004). A focus group usually is composed of 7-12 participants who are knowledgeable about the topic. In this study, a group size of 8-9 was considered optimal to generate balanced participation and greater ease in transcribing the audio-tape (Kleiber; Morse & Field, 1995). Focus groups were scheduled for forty five minutes to one hour.

As with the administration of the questionnaire, focus groups were conducted with the assistance of a RA. As the investigator, I moderated and used group facilitation skills to guide the interviews. A semi-structured approach using 7 questions to allow for sufficient depth of discussion was used

(Appendix G). The questions were designed to facilitate open discussion and disclosure. The first question opened the interview with a general inquiry about students' understanding of CBL, a non-threatening knowledge-based topic. Subsequent questions guided the discussion from talking about surface behaviors (approach to team work and communication) to more personal attitudinal and feeling topics (self-confidence and adjustment). The final two questions guided the discussion to contextual factors (things that helped with adjustment) and a catch-all question (anything else) to allow for discussion of any additional topics the participants deemed important to share. This sequencing allowed students to move away from the personal (feelings) topics as the interview was drawing to a close.

The RA was present as an observer to take notes and monitor the tape recorder, thus freeing the moderator's attention to facilitate the discussion. The initiation of each focus group included a description of the purpose, the establishment of ground rules for the group discussion, an explanation of confidentiality and how it would be addressed, and the use of the information obtained in the focus group interview. Written consents were obtained (Appendix F) and participants were also asked to sign a confidentiality agreement (Appendix I). The field notes, audio-tapes and transcript of the focus groups are maintained in a secure cabinet which is different from the one where consents are stored.

Recruitment of Focus Group Participants

Recruitment for this component of the study was enhanced by the degree of personal investment in the study of potential participants (Kleiber, 2004). This is similar to the questionnaire response rate issues addressed earlier in this report. Strategies to enhance recruitment included flexible scheduling of focus groups to suit preferred dates and times, selecting a convenient location (e.g. Clinical Sciences Building) where students were likely to be at the time when interviews were scheduled, and offering refreshments at the time of the interviews. There were not enough volunteers following the initial invitations to hold three focus groups. As the end of classes for the term was imminent there

was limited opportunity for using a follow up letter. Therefore snowballing technique was used with some success. Students who had already volunteered to participate were asked to recommend potential participants for the focus groups. In addition, posters were displayed on the first year bulletin board, third floor Clinical Sciences Building (Appendix J). Based on these efforts, three focus groups consisting of eight, seven, and four participants respectively were held.

Issues of Rigor Relevant to Focus Groups

Morse and Field (1995) identify four general criteria to evaluate qualitative research and to determine trustworthiness as follows: credibility, applicability, consistency, and confirmability. Credibility refers to the process of ensuring the participants' responses are clearly presented (Morse & Field). The use of established procedures fostered a nonjudgmental atmosphere of mutual respect in order to encourage candid expression and a range of opinions discussed during the interviews. The quality of the data depended on the rapport established with participants and the facilitation skills of the moderator. The transcript illustrates the use of paraphrasing, polling the group, clarifying, asking open ended questions, and summarizing by the moderator throughout each interview. Other useful strategies to encourage open discussion included using introductions and a warm-up period to open each session, name tents, and round table seating; serving lunch to lend to an air of informality; and removing physical distractions in the environment. The use of compact digital recording devices proved to be effective in that the devices were unobtrusive to the participants. The observer and moderator spent approximately 30 minutes following each focus group interview recording detailed meeting notes which were discussed in a debriefing session to confirm one another's observations. The audio-tapes of the focus group interviews were transcribed verbatim and reviewed by both the moderator and RA, to ensure accuracy and clarity of the word documents.

Applicability refers to the application of the findings in other contexts or settings (Morse & Field, 1995). This criterion was supported by the use of

strategies to manage threats to external validity. Attention was paid to providing detailed information about the phenomenon of interest and the setting in which this study was conducted.

Consistency or dependability refers to “whether the findings would be consistent if the inquiry were replicated with the same subjects in a similar context” (Morse & Field, 1995, p. 144). The use of detailed procedures, field notes, and independent review of the transcripts by the RA and investigator were used to support dependability.

Finally, confirmability refers to neutrality or freedom from bias. This is gained through prolonged contact with participants and the investigator’s self-awareness of biases through the use of field notes and consultation with others. This study is being undertaken as a thesis project and as such has been conducted with transparency including consultation with the supervisor and systematic documentation to promote neutrality.

Data Entry, Cleaning and Checking

The completed questionnaires were paired with signed consents. The pairs with “Nos” checked off on the consent forms were set aside and not used in the data analysis due to the absence of informed consent in all areas. The remaining 53 FYNSQ responses were entered onto a data file using SPSS. Codes that were established in the pre-testing of the questionnaire were used. Participant identification numbers were replaced with code numbers and the key with the corresponding codes is stored separately from the questionnaires and consent forms. Variables were named according to the sub-scale descriptors used in each instrument.

Scoring of each sub-scale in the FYNSQ included two steps. First, the scores for each negatively worded item were reversed. For example in Parts A and B these items were scored as: (1) strongly agree to (5) strongly disagree. Part C (SCOPE) was similarly adjusted for the 10 part scale and became

scored as: (1) extremely characteristic to (10) extremely uncharacteristic. Second, the SPSS spreadsheet was set up to include columns for each sub-scale scores computed by simple addition to obtain an overall score for each.

In order to control for validity as a function of data analysis, data entry was checked and re-checked by the investigator to reduce coding errors. There were only two items on two separate questionnaires with missing values and thus systematic error as a result of automatic assignment of missing values was avoided. A decision to automatically assign the middle value was made in view of the low occurrence. A visual check for accuracy of data entry was done using the original completed questionnaires. Univariate analysis was completed and outliers were checked against the completed surveys. A second check was performed using a print-out of the data files and verified by a RA. The responses to demographic questions requiring handwritten comments and the responses to the open ended questions were entered onto a word document.

The CCTDI data collected by the Program Evaluation Committee (Administrative Council, Collaborative Program) was already entered onto SPSS. Based on the list of students' names who consented to the release of information, support staff provided an SPSS spreadsheet containing data for the appropriate participants. The CCTDI was scored in two steps. First, a score for each of seven scales was computed by multiplying the mean of the item scores in the scale by 10. Then, the scores for the seven scales are summed to give a total CCTDI score. These computations were included on the SPSS file received from the Program Evaluation Committee.

Focus group audio-tapes were transcribed onto word documents by a professional transcriptionist. The sound quality of the tapes was excellent. The audio-tapes were reviewed and compared against the transcripts twice to ensure accuracy. The transcripts were highly accurate and required minimal editing.

Data Analysis

FYNSQ

Data analysis strategies for the FYNSQ are discussed in this section. First, the analysis includes a description of the sample and descriptive statistics for each of the variables. Next, the reliability of the instrument scales and subscales is provided. Following that, the analysis is organized according to the research questions and corresponding measurement tools in the questionnaire.

Background and demographic data was analyzed using descriptive statistics to define the characteristics of the participants. Measures of central tendency displayed with graphs and charts were employed. Descriptive statistics were also used for each variable and included central tendency, means, standard deviations, and variability. Histograms with distribution curves indicated that the variables had normal distributions, one of the assumptions for use of the parametric test, Pearson's *r*. The reliability of the scales and subscales was conducted using Cronbach alpha and item-total correlation coefficients.

Bivariate analysis was used to determine the relationship between the variables of interest in the research question and adjustment:

1. Uncertainty/ambiguity (CEQ clarity of expectations)
2. Coping with academic stress (SCOPE and CEQ appropriate workload)
3. Self-direction (emphasis on independence and CCTDI inquisitiveness)
4. Ability to retrieve resources
5. Critical thinking dispositions (CCTDI)

Adjustment was measured by self-report and final grade for Nursing 194. Pairs of scores were graphically displayed using scatter-plots to determine if the association between variables was linear. The patterns also described the direction (positive vs. negative), the presence of outliers, and the strength (cluster around the regression line) of the relationship (Evans, 1998).

Pearson's correlation coefficient (r) (two tailed) was calculated. Pearson's r is an appropriate statistic to use when a linear relationship exists and the variables are measured at the interval level. It is conventional in social science research to consider summated scores as indexes that have been transformed to ratio level data. This permits the use of more sophisticated data analysis procedures (Gillis & Jackson, 2002). In this study that convention was followed.

Data was also analyzed using multiple regression. Regression makes use of the correlation between variables and the notion of a straight line to develop a prediction equation (Munro, 2005). Each of the independent variables is assigned a weight based on their relationship to the dependent variable. Regression is a useful technique that allows prediction of outcomes and explains interrelationships among the variables - in this study, to predict the criterion variable (adjustment) from a set of predictor variables (uncertainty/ambiguity, coping, self-direction, retrieval of resources and critical thinking). This provided an "index of the relationship between the criterion variable and each of the predictor variables in the form of a regression coefficient" (Evans, 1998, p. 479).

Responses to the open-ended questions in the FYNSQ were analyzed using content analysis to consider similarities and differences with the focus group data and to add to the understanding of how students' perceive their adjustment to CBL. The process used mirrored that outlined below for analysis of focus group analysis.

Data Analysis: Focus Groups

The data obtained during focus group discussions was analyzed using content analysis. The transcripts and field notes from each individual group were segmented according to responses to each of the questions. The word documents containing the transcripts and field notes were formatted to facilitate content analysis. First level codes were used to identify the content in the margins and then category labels established for describing each group of data. The categories were broad initially to enable sorting of large amounts of

data. As data emerged categories were combined so that each category had sufficient data (Morse & Field, 1995). Some categories containing too much data were further divided into sub-categories.

The RA and I conducted independent content analysis. Following initial review of the focus group data, we met to review initial category labels for use in ongoing analysis. The degree of agreement in initial category labels was high; the correlation coefficient to determine inter-rater reliability was calculated according to the method outlined by Gillis and Jackson (2002) and was found to be .91 (see Table 3 for details).

Table 3

Inter-Rater Reliability of Category Labels (Focus Group Interviews)

Group	# content items	Item agreement	Reliability coefficient (%)
1	101	94/101	.93
2	93	79/93	.85
3	98	93/98	.95
TOTAL	292	266/292	.91

The transcripts of all three focus group interviews were analyzed collectively and the use of constant comparison helped identify emerging themes and issues across groups. The five themes represent the responses to specific questions related to the characteristics of student adjustment to CBL that were of interest in this study (Appendix G). The focus group interviews were sufficiently unstructured to facilitate discussion of additional factors. These factors were identified by students to be importance to them during their adjustment and consisted of contextual factors related to the learning environment. For the purposes of analysis and interpretation, these topics have been addressed as *Other Influencing Factors*.

The final step in the analysis was to identify “specific statements, general statements, and abstract statements” (Morse & Field, 1995, p. 218). These

include propositions, hypotheses and initial steps in theory development which will be analyzed in relation to the conceptual framework of this study presented in Chapter 5. This analysis was useful in interpreting the data obtained in the questionnaires and in considering the implications of the findings for nursing education programs using a CBL approach.

Ethical Considerations

This proposal was submitted for ethical review and approved by the Health Research Ethics Board at the University of Alberta in September 2006. A number of ethical considerations have been addressed and are summarized in the following discussion.

The population of interest received an information letter and instructors were contacted prior to the initiation of the study. Informed written consent was obtained from participants prior to completing the questionnaire and participating in the focus groups (see Appendix E). Anonymity has been protected by using identification numbers and by storing the signed consents in a separate locked cabinet. Names will never be used in any presentation or publication of study results.

Focus group participants were informed of the importance of exercising confidentiality about the information that was shared during the interview and were asked to sign a confidentiality agreement (Appendix H). During focus group discussions, the ground rules were maintained by the moderator to facilitate a respectful environment. Audio-tapes will not be used for public presentations. If dialogue is included in presentations and/or publications all identifiers will be removed. Only members of the supervisory committee will have access to the tapes and any related notes.

Freedom to express a range of opinions and perspectives is encouraged; however, participants were also informed that they were not expected to disclose beyond their comfort level (Kleiber, 2004). The use of focus groups is

a powerful method for gathering rich data and this process may have effects on the participants, especially if they are highly involved in the topic (Kleiber, 2004). It was important to attend to potential and actual influences of this experience on the participants. The moderators paid attention to this aspect during data collection and the need to speak with students individually following the interviews did not arise. In addition, the participants were reminded of the additional contact information provided in the information letter they received prior to their participation in the study (Appendix D).

The students may have found the opportunity to reflect and talk about their initial experiences with CBL helpful. Every effort was made to make the participation as free from discomfort as possible. The investigator was not aware of any discomforts or risks that students may have experienced as participants in this study. Participants were reminded that they should not feel pressured by instructors, peers or members of the research team to participate in the study. Participants were informed prior to participation that they could withdraw from the study at any time if they felt uncomfortable or upset. None did so. The RA observed for indications of discomfort and none were noted. Students were also provided with contact numbers for the Associate Dean, Graduate Studies and Research.

The data from this study may be used again in the future to answer other questions of interest. If so, a study proposal will be submitted to the ethics board for approval.

CHAPTER 4: RESULTS/FINDINGS

Introduction

The results of this research study are presented as follows: (a) the questionnaire results including description of the sample, descriptive statistics from the FYNSQ, reliability of instrument scales and sub-scales, bivariate analysis (correlations), multiple correlation (regression) analysis, and findings related to the open-ended questions are presented; (b) the focus group findings including five themes and other influencing factors; (c) a comparison of the FYNSQ and focus group results/findings; and (d) a summary of key results and findings.

The presentation is framed according to the specific sub-scales in the FYNSQ and focus group questions, as well as the context of the three research questions:

1. How do first year undergraduate nursing students describe changes in self-confidence, ability to engage in group work, and skills in communication over the period of their first term in CBL courses?
2. What students' characteristics contribute to their adjustment to CBL?
3. What is the relationship between uncertainty/ambiguity, coping with academic stress, self-direction, ability to retrieve learning resources, and critical thinking dispositions and adjustment to CBL?

Specifically, the first question is addressed in the section entitled Focus Group Findings as these topics were included in the interview questions (Appendix G). The second question related to student characteristics is addressed in the closing section of the chapter where the results and findings are integrated with a comparison of the FYNSQ results and the focus group interview findings. And the third research question is addressed in the presentation of FYNSQ results as it relates primarily to the statistical analysis.

FYNSQ Results

Description of the Sample

Cleaning of the data and verification of valid consent resulted in 53 completed FYNSQ appropriate for use. Two of the 53 participants did not complete the CCTDI; thus the sample size for the CCTDI was 51. This constitutes approximately 30-32% of the students registered in Nursing 194 at the Faculty of Nursing, University of Alberta in September 2006.

The background information on the FYNSQ (Part A) included information about students' age, marital status, work and previous educational experience, and employment status during the term of study in which the questionnaire was completed. The participants were predominantly young as noted in Figure 2. Eighty-six percent of the participants were 24 years of age or younger. Fifty-two of the 53 participants were female and 48 were single.

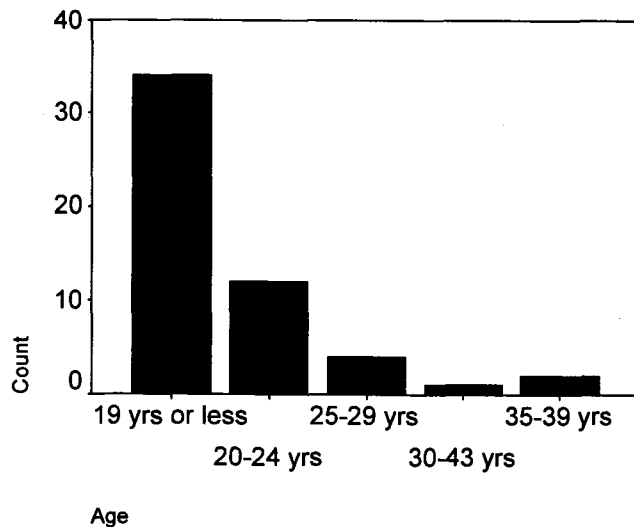


Figure 2. Age of participants.

Years since graduation from high school, closely corresponds to age; and 83% of the participants graduated within the last four years (see Figure 3).

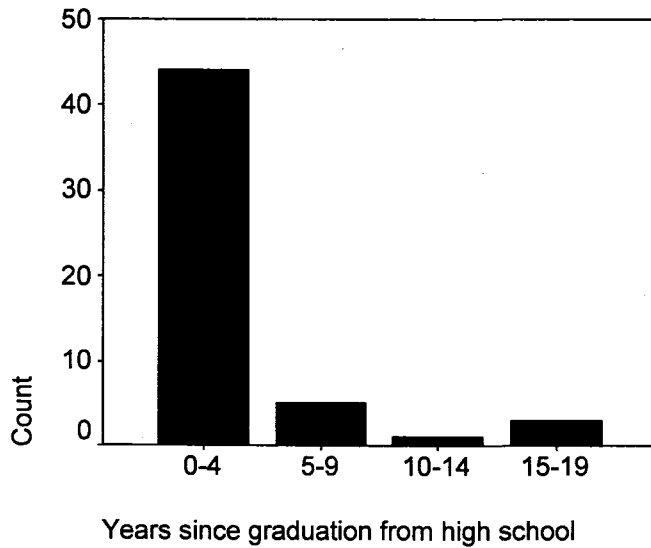


Figure 3. Years since graduation from high school.

Approximately 60% of the participants reported completion of previous college or university courses (Figure 4).

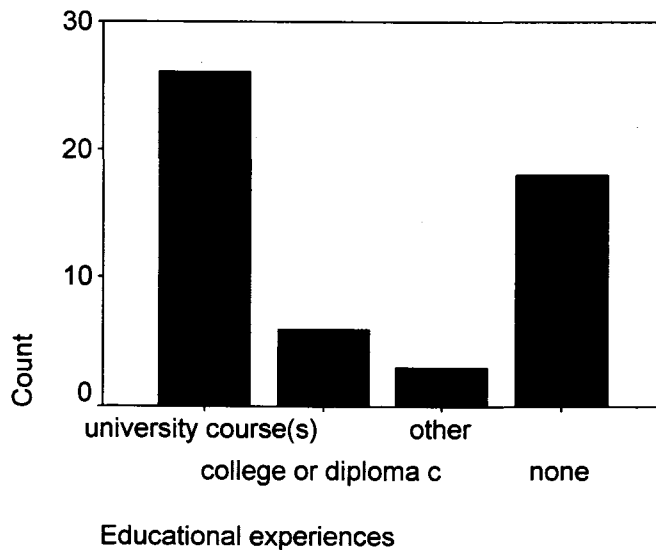


Figure 4. Previous educational experiences.

Work experience varied whereby 14 (26.4%) individuals had experience in a health care setting prior to entering the baccalaureate nursing program (Table 4). The most frequent response was “other” and the table note indicates the range of settings specified by respondents on the survey.

Table 4

Work Experience Setting

Item response	Frequency	Percent	Valid percent	Cumulative percent
Health care	14	26.4	26.4	26.4
Retail	10	18.9	18.9	45.3
Hospitality	6	11.3	11.3	56.6
Office	8	15.1	15.1	71.7
Other	15	28.3	28.3	100.0
TOTAL	53	100.0	100.0	

Note. Other settings identified included massage therapy clinic, grocery store, library, recreation (swimming) and community services, and children’s camp.

The role held most frequently by participants who reported work experience in a health care setting was that of care aide (9 of the 14 respondents). The remaining roles were identified as volunteer, dietary aide, or X-ray technician (Table 5). In keeping with the range of settings identified above, the roles also included a wide range as indicated in the table note.

All 53 respondents indicated they were registered as full time students. During the term of study, slightly more than half (27) were not employed, 6 were employed on a casual basis, and 19 were working part-time. One respondent reported full time employment.

Table 5
Work Experience Roles

Item Response	Frequency	percent	Valid percent	Cumulative percent
Care aide	9	17.0	17.0	17.0
Clerk	8	15.1	15.1	32.1
Server/waiter	6	11.3	11.3	43.4
Receptionist	6	11.3	11.3	54.7
Other	24	45.3	45.3	100.0
TOTAL	53	100.0	100.0	

Note. Other roles noted included therapist, librarian, recreation programmer, camp counselor, lifeguard, marketing assistant, research assistant.

FYNSQ Descriptive Statistics

Descriptive statistics including mean, minimum and maximum scores, standard deviations, and frequency histograms were calculated using SPSS. A summary of these results are included in Table 6. Histograms with distribution curves for each of the measures above were generated to demonstrate normalcy of frequency distributions.

The variables of interest in the research question were measured using the scales and sub-scales identified in the following section in which results for each variable are presented.

Uncertainty/ambiguity

Uncertainty/ambiguity was measured using the sub-scale, clear goals (CEQ). This sub-scale contains five items and can result in a range of possible scores of from 5 to 25. The mean score was 12.25 (SD = 3.96). This suggests that the respondents were somewhat neutral with respect to their perception about clarity of goals and expectations in Nursing 194.

Table 6

FYNSQ Sub-Scales and Scales' Descriptive Statistics

Measure	N	# item	Range (poss. scores)	Min	Max	Mean	SD
Retrieval of resources	53	8	8-40	23	40	34.70	3.36
CEQ Clear goals	53	5	5-25	5	21	12.25	3.96
CEQ Workload	53	5	5-25	6	19	12.72	3.34
Independence	53	5	5-25	12	25	18.85	2.40
CEQ Total Score	53	15	15-75	27	61	43.59	1.09
SCOPE PFC	53	15	15-150	38	142	100.70	17.62
SCOPE EFC	53	15	15-150	26	112	68.91	19.01
CCTDI Truth-seeking	51	12	12-60	28	48	36.02	4.98
CCTDI Open-minded	51	12	12-60	28	54	44.14	5.32
CCTDI Inquisitiveness	51	10	10-60	24	60	47.10	6.58
CCTDI Systematicity	51	11	11-60	27	50	39.98	5.25
CCTDI Maturity	51	10	10-60	23	55	44.59	6.38
CCTDI Self-confidence	51	9	10-60	29	53	41.08	5.71
CCTDI Analyticity	51	11	11-60	28	53	43.22	5.31
CCTDI Total Score	51	75	76-420	197	347	296.12	27.03
Adjustment Score	51	6	6-30	6	30	19.25	4.28
Understanding of CBL	51	1	1-5	1	5	3.57	.84
Final Grade	53	1	0-4	1	4	2.80	.93

Coping with Academic Stress

The two scales on the SCOPE instrument (PFC and EFC) and the sub-scale appropriate workload (CEQ) were used to measure coping with academic stress. Each of the SCOPE scales contain 15 items and use a 10 point Likert scale resulting in possible scores ranges of 15 to 150. The data indicates higher scores for PFC with a mean of 100.70 (SD = 17.62) compared to 68.91 (SD = 19.01) for EFC.

The range of possible scores for appropriate workload is between 5 and 25 and respondents' scores ranged between 6 and 19 with a mean of 12.72 (SD = 3.34). These results are similar to those for clarity of expectations, a neutral response according to the Likert rating scale.

Self-direction

Two sub-scales were used to measure self-direction, emphasis on independence and inquisitiveness (CCTDI). Student scores on this sub-scale arising from the CEQ were much higher than those found in the first two subscales noted above and ranged from 12 to 25 with a mean of 18.85 (SD = 2.40). This suggests that students perceive a fairly high emphasis on independence in this CBL course.

The CCTDI sub-scale inquisitiveness contains 10 items and the possible range of scores is from 10 to 60. Based on the data participants' scores ranged from 24 to 60 with a mean of 47.10 (SD = 6.58) were similar to those of the emphasis on independence sub-scale.

Retrieval of Resources

Eight investigator-developed questions were used to measure student perceptions of their ability to retrieve resources. The possible range of scores is 8 to 40. Participants scored 23 to 40 with a mean of 34.70 (SD = 3.36), indicating that they rated this ability high.

Critical Thinking Dispositions

The CCTDI total score is determined by summing the scores on seven sub-scales with a possible range of 76 to 420. According to the literature a score higher than 350 indicates a strong disposition, a score of 280-350 reflects a positive inclination toward critical thinking, while a score of less than 280 reflects a deficiency (Profetto-McGrath, 2003). The range of scores in this study was from 197-347 with a mean score of 296.12 (SD = 27.03).

Self-Confidence

Self-confidence is one of the sub-scales in the CCTDI and includes nine items with a possible range from 10 to 60. The scores for this variable ranged

from 29 to 53 with a mean of 41.08 (SD = 5.71), indicating a modest self-appraisal by respondents.

Adjustment

Adjustment to CBL was measured using six investigator-developed items on the FYNSQ related to perception of adjustment, understanding of CBL, and final grade for Nursing 194. Students' scores for adjustment ranged from 6 to 30 which is also the possible range of scores for the items measuring this variable. The mean was 19.25 (SD = 4.28), a somewhat neutral result.

The final grades for Nursing 194 were recorded using the point values on a 4-point scale for undergraduate courses assigned by the University of Alberta:

- | | |
|-------------------|-------------|
| 1. A and A+ = 4.0 | 7. C = 2.0 |
| 2. A- = 3.7 | 8. C- = 1.7 |
| 3. B+ = 3.3 | 9. D+ = 1.3 |
| 4. B = 3.0 | 10. D = 1.0 |
| 5. B- = 2.7 | 11. F = 0 |
| 6. C+ = 2.3 | |

The range of scores for this group of students was 1 to 4 with a mean of 2.8 (SD = .93). A typical mean score for first year undergraduate courses at the University of Alberta is 2.4 (Newman, 2003).

Reliability of Instrument Scales and Sub-Scales

Following data entry and cleaning, Cronbach alpha internal consistency reliability coefficients were calculated for each of the sub-scales in the FYNSQ. The computed values are shown in Table 7. Two of the sub-scales, retrieving resources and emphasis on independence, were below the generally accepted alpha level of .70 (Gillis & Jackson, 2003). The two CEQ sub-scales (clear goals and appropriate workload) and investigator-developed items (emphasis on independence) were combined. As a result, the Cronbach alpha was estimated to be .73, indicating the items in these sub-scales may form a single scale.

Table 7

Internal Consistency of Sub-Scales

Sub-Scale	Number of items	Cronbach α
Retrieval of Resources	8	.56
CEQ Clear Goals	5	.82
CEQ Workload	5	.82
Emphasis on Independence	5	.51
CEQ as a Single Scale	15	.73
SCOPE PFC	15	.85
SCOPE EFC	15	.80
CCTDI as a Single Scale	7	.81
Adjustment	6	.86

Note. Cronbach alpha for CCTDI sub-scales was not conducted due to extensive use and scale testing with large samples of nursing students.

The two sub-scales with low reliability coefficients, retrieval of resources and emphasis on independence, were further examined for unidimensionality by calculating the item-total correlation coefficients (see Table 8). Generally, a coefficient of < 0.3 or > 0.7 suggests an item should be considered for removal from a scale (Fisher, King & Tague, 2001). None of the items produced a coefficient of < 0.3 .

Table 8

Item-Total Correlations Retrieval of Resources & Emphasis on Independence

Item	Item-total Correlation
Retrieval item 1	.50**
Retrieval item 2	.65**
Retrieval item 3	.35*
Retrieval item 4	.67**
Retrieval item 5	.45**
Retrieval item 6	.63**
Retrieval item 7	.58**
Retrieval item 8	.52**
Independence item 1	.61**
Independence item 2	.44**
Independence item 3	.75**
Independence item 4	.70**
Independence item 5	.37**

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

**Correlation is significant at the 0.01 level (2-tailed)

Correlations

Scatter plots indicating the line of fit were generated to determine the presence of linear relationships among the variables of interest. Given that the assumptions of normal distribution, data at interval level, and linearity were met, the parametric test, Pearson correlation was used. The results of this analysis are presented in Table 9.

Table 9

Pearson Correlation Coefficients

Measure	Adjustment Pearson r	Final Grade Pearson r
Retrieval	.43**	.17
CEQ Clear Goals	.63**	-.03
CEQ Workload	.62**	.12
Independence	.60**	-.05
CEQ Total	.75**	.02
PFC	.20	.20
EFC	-.25	-.15
CCTDI Truth-seeking	.23	.29*
CCTDI Open-minded	.13	.19
CCTDI Inquisitiveness	.25	.21
CCTDI Systematicity	.27	.16
CCTDI Maturity	.16	-.02
CCTDI Confidence	.33*	.28*
CCTDI Analyticity	.28*	.06
CCTDI Total	.34*	.24
Adjustment	1.00	.11
Understanding	.65**	-.14

** Correlation is significant at the 0.01 level (2-tailed)

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

Bivariate analysis revealed a number of significant positive relationships:

1. Clear goals (CEQ) and adjustment ($r = .63$, $p < .01$, two tailed); relates to the uncertainty/ambiguity variable in research question 3.
2. Appropriate workload (CEQ) and adjustment ($r = .62$, $p < .01$, two tailed); relates to the coping with stress variable in research question 3.

3. Emphasis on independence and adjustment ($r = .60, p < .01$, two tailed); relates to the self-direction variable in research question 3.
4. Retrieval of resources and adjustment ($r = .43, p < .01$, two tailed); relates to the ability to retrieve resources variable in research question 3.
5. Self-confidence (CCTDI) and adjustment ($r = .33, p < .05$, two tailed); relates to the self-confidence variable in research question 1.
6. Analyticity (CCTDI) and adjustment ($r = .28, p < .05$, two tailed); relates to research question 3.
7. CCTDI total score and adjustment ($r = .34, p < .05$, two tailed); relates to research question 3.
8. Student understanding of CBL and adjustment ($r = -.65, p < .01$, two tailed); relates to research question 3, the adjustment outcome.

PFC and EFC had a weak correlation to adjustment and were not statistically significant. The relationship to adjustment was positive for PFC and negative for EFC. These measures are associated with the variable in research question 3, coping with academic stress. The remaining CCTDI sub-scales (truth seeking, open mindedness, inquisitiveness, systematicity, and maturity) correlated weakly in a positive direction, but were not statistically significant. These measures relate to research question 3.

Bivariate analysis to determine relationships between these measures with final grade revealed two significant positive relationships: truth seeking (CCTDI) and final course grade ($r = .29, p < .05$, two tailed); and self-confidence (CCTDI) and final course grade ($r = .28, p < .05$, two tailed). The results of Pearson's correlation suggest that higher scores in truth seeking and self-confidence were related to higher final grades for Nursing 194.

Very weak positive correlations between final grade and adjustment, retrieval of resources, workload, PFC, and CCTDI total score were revealed.

Very weak negative correlations between final grade and clear goals, emphasis on independence, and EFC were also found.

Regression

Backward regression was conducted using SPSS to consider the multiple correlations of predictor variables and overall adjustment. The seven independent variables with statistically significant correlations to adjustment were included in the regression analysis. In the final equation, four variables remained and accounted for 64% of the variance in adjustment ($p = .000$). These included workload (CEQ), clear goals (CEQ), independence, and confidence (CCTDI). The analysis of variance indicated that the significance was at the .000 level for all four models. In other words, the predictor variables satisfactorily explain the variation in the dependent variable, adjustment to CBL. Table 10 also includes the standardized scores on the variables, a partial correlation coefficient of the relationship between an independent variable and the dependent variable holding the influence of the other variables constant (Munro, 2005). Model four indicates that three of the predictors contribute significantly to the variance in counting backwards: CEQ clear goals ($p = .003$), CCTDI confidence ($p = .003$), and CEQ workload ($p = .006$).

A second backward regression was completed to determine the multiple correlations of the predictor variables and adjustment excluding the subscales, independence and retrieval of resources. A second analysis was completed because these two scales did not yield high internal consistency (Cronbach alpha). The second model summary is presented in Table 11. In the final equation, three variables remained and accounted for approximately 61% of the variance in adjustment ($p = .000$). With the exception of independence, the results are similar to the first multiple regression analysis. The analysis of variance for the second regression analysis indicates that the significance is .000 for all three models. As indicated in Table 11, three of the predictors in model three contribute significantly to the variance in counting backwards: CEQ clear goals ($p = .000$), CEQ workload ($p = .000$), and CCTDI confidence ($p = .000$).

Table 10

Summary 1 Multiple Regression for Variables Predicting Adjustment

Variable	B	SE B	Beta	R	R ²	p
1 (Constant)	-8.466	6.105		.805	.648	.173
CEQ Clear Goals Score	.382	.121	.344			.003
CEQ Workload Score	.470	.177	.362			.011
Independence Score	.388	.223	.214			.089
Retrieval Score	-7.02E-02	.157	-.055			.656
CCTDI Confidence	.171	.097	.226			.085
CCTDI Analyticity	-3.73E-02	.106	-.046			.728
CCTDI Total Score	2.289E-02	.023	.144			.333
2 (Constant)	-8.470	6.044		.804	.647	.168
CEQ Clear Goals Score	.373	.117	.336			.003
CEQ Workload Score	.473	.175	.364			.010
Independence Score	.397	.220	.218			.078
Retrieval Score	-7.83E-02	.153	-.061			.612
CCTDI Confidence	.169	.096	.244			.084
CCTDI Total Score	1.828E-01	.019	.115			.344
3 (Constant)	-10.103	5.088		.645	.605	.053
CEQ Clear Goals Score	.372	.116	.336			.002
CEQ Workload Score	.427	.147	.328			.006
Independence Score	.398	.218	.219			.074
CCTDI Confidence	.155	.090	.205			.094
CCTDI Total Score	1.866E-02	.019	.117			.330
4 (Constant)	-7.402	4.285		.637	.606	.091
CEQ Clear Goals Score	.370	.116	.333			.003
CEQ Workload Score	.429	.147	.330			.006
Independence Score	.421	.217	.232			.058
CCTDI Confidence	.213	.068	.282			.003

a. Dependent Variable: Adjustment Score

Table 11

Summary 2 Multiple Regression for Variables Predicting Adjustment

Variable	B	SE B	Beta	R	R ²	p
1 (Constant)	-5.194	4.506		.788	.622	.255
CEQ Clear Goals Score	.457	.115	.412			.000
CEQ Workload Score	.562	.131	.432			.000
CCTDI Confidence	.136	.093	.180			.150
CCTDI Analyticity	-6.45E-02	.106	-.080			.546
CCTDI Total Score	3.010E-02	.023	.189			.203
2 (Constant)	-5.312	4.471		.786	.619	.241
CEQ Clear Goals Score	.445	.112	.401			.000
CEQ Workload Score	.564	.130	.433			.000
CCTDI Confidence	.130	.092	.172			.163
CCTDI Total Score	2.231E01	.019	.140			.254
3 (Constant)	-1.718	3.222		.779	.607	.597
CEQ Clear Goals Score	.447	.112	.402			.000
CEQ Workload Score	.576	.130	.443			.000
CCTDI Confidence	.199	.070	.264			.000

a. Dependent Variable: Adjustment Score

Responses to Open-Ended Questions in the FYNSQ

The FYNSQ contained six items allowing students to rate their level of perceived adjustment to CBL. The scores from the six items yielded an overall score. The possible range of scores was 5 to 25 while the range based on participants' responses was 6 to 30 with a mean of 19.25 (SD 4.28). The FYNSQ also contained one item asking students to rate their level of understanding of CBL. Possible ranges for this item are 1 to 5; participants' scores were similar in range with a mean of 3.57 (SD .84). As noted previously, bivariate analysis revealed a significant positive relationship between adjustment and understanding. Those with higher understanding scores tended to report a higher level of adjustment ($r = .65, p < .01$).

The FYNSQ contained two open-ended questions: Part B, Item 11 asked respondents to “describe what being adjusted to CBL means based on your response to the last question above.” The question referred to in this item stated, “I feel I have adjusted to CBL” with responses (1) = strongly disagree to (5) = strongly agree. Forty five of the 53 participants (84.9%) responded to this question as noted on Table 12. Correlation analysis revealed a significant positive relationship between this final item and the overall score for all six adjustment items ($r=.82, p < .01$). This indicates that the responses to the open-ended question would be representative of the overall score for adjustment to a high degree.

Table 12

Responses to open-ended question according to rating of adjustment

Rating	Descriptor	# of responses by individuals completing open-ended question (n=45)	# of responses by all respondents (n=53)
1	Strongly disagree	1 (100%)	1
2	Disagree	5 (71%)	7
3	Neither agree nor disagree/ neutral	14 (82%)	17
4	Agree	23 (88%)	26
5	Strongly agree	2 (100%)	2

The second open-ended question, the last item on the questionnaire, asked “What additional information would you like to add to what has already been asked in the above questions?” Seven of the 53 respondents (13.2%) responded to this question. The findings are presented following the content analysis of the first open-ended question.

The responses were analyzed using content analysis according to the process described in Chapter 3 of this report. The following themes were identified: dissatisfied consumer, getting comfortable with the process (understanding CBL), knowing what is expected and what I need to learn, working in a group, taking responsibility for self (self-directed learning, and growth). Appendix K contains the matrix used to sort data according to each of the ratings and thematic labels.

Dissatisfied Consumer

This theme relates to student expectations of the educational program and the role of the tutor. The comments in this thematic area reflect dissatisfaction with CBL as an approach to teaching and learning. One student responded “strongly disagree” to the item about her level of adjustment and the response to the open ended-question clearly indicated dissatisfaction with CBL.

There were also responses from individuals who responded “disagree” or “neutral” to the query about how they felt about their adjustment. These comments also reflected dissatisfaction with CBL.

Self learning is a concept I'm good at however learning from my peers is difficult, I'd rather learn from a qualified instructor.

I have adjusted in the sense that I participate and evaluate discussion and research topics. But I do not enjoy or have adjusted to the lack of direction given by tutors.

Students who rated their level of adjustment as “agree” also indicated that CBL was not their preferred approach and if they “had to do it again, would not choose a faculty that used CBL.” As one student expressed,

I think that giving a more thorough explanation of the CBL process at the beginning of Nursing 190 would alleviate a lot of frustrations and allow people to make a more informed decision as to whether or not it's the type of nursing program each student wants to be a part of.

Getting Comfortable With the Process: Understanding CBL

Comments about getting comfortable with the process were fairly evenly distributed across the three groups who responded “strongly disagree, neutral,

or agree” about their adjustment to CBL. Comments reflect that adjustment is a process that takes more time for some; but all comments indicated that students felt they were adjusting as evident in the following statements:

I’m slowly getting used to CBL. It’s getting more comfortable.

I am used to the whole CBL learning process. Rather than finding it frustrating, I feel I have benefited from having everyone work together.

Knowing: What is Expected and What I Need to Learn

Again, this theme is reflected in the responses ranging from “disagree to neutral to agree” that the participant feels he/she has adjusted to CBL, although there are proportionately more responses in this theme from those who agreed they had adjusted to CBL. In other words, the participants who rated their adjustment more favorably were more likely to focus their comments in this theme. A few statements illustrate this point:

(Being adjusted to CBL means) Feeling comfortable with what I am supposed to do and learn. Understanding what is expected.

I think it means being comfortable and confident in yourself that you are covering all the information you need to know to be successful.

Working in a Group

The responses that were classified under this thematic label were concentrated in the lower quadrant of the matrix (Appendix K) where the rated adjustment level of participants was more favorable. The issue of “trusting and relying on your peers to do their part” was noted by several respondents. The notion of group support and feedback was also evident in the data as the following statements indicate:

I have gotten used to participating in large groups and getting feedback from my tutor and peers.

Understanding what is expected of group dynamics and learning how to deal with conflict and how to reduce it.

Taking Responsibility for Self: SDL and Personal Growth

As with the previous theme, the responses congruent with this theme were more prevalent among the students who rated their adjustment more favorably (Appendix K). There was a sense of owning responsibility for ones' own learning; as well as perceived benefits to CBL as an approach to learning. A few examples from the data are:

You are able to self direct your learning while participating in a group in a positive and productive way.

I'm benefiting from CBL classes and learning enough information.

I am very independent and specifically chose CBL for self-directed learning and small classes. It is a good "fit" and reflects my strengths and values.

These findings to the first open-ended question on the FYNSQ are compared with the analysis of the focus group interview data at the end of the chapter.

Open-Ended Question 2: Additional Information

As noted earlier, seven of the 53 respondents (13.2%) included additional comments at the end of the survey. Five of these indicated some difficulty adjusting to CBL and suggested more guidance at the beginning of the program would be helpful. There was indication that some students would like their tutors to provide more structure.

Focus Group Findings

Three focus groups were held and included eight, seven, and four participants respectively. Five thematic areas emerged from the data analysis. The themes represent the responses to specific questions related to the characteristics of student adjustment to CBL that were of interest in this study (Appendix G). These themes are dynamic, transforming processes that illustrate a process of change in participants during their initial adjustment to

CBL. The changes relate to students' perceptions of knowing, questioning, adjusting and coping, learning, and emerging and are labeled as follows:

1. From needing to know to knowing how to learn
Sub-themes: determining essential information, seeking relevance to nursing practice
2. From looking for the right answer to asking the right questions
Sub-themes: thinking more critically, exploring multiple perspectives, becoming more open-minded
3. From feeling overwhelmed to getting a grip
Sub-themes: recognizing difficulties, managing workload, feeling hopeless, identifying things that are helpful, understanding and adjusting to CBL
4. From learning individually to learning together
Sub- themes: assuming responsibility for self and group, becoming more self-directed
5. From cocooning to emerging (transforming)
Sub-themes: building communication skills, gaining self-confidence

The focus group interviews were sufficiently unstructured to facilitate discussion of additional factors which were identified in the transcripts to be highly important to students during their period of adjustment. For purposes of analysis and interpretation, these topics are addressed as *Other Influencing Factors*. The findings of the focus groups according to each of these themes and other influencing factors are presented in the following section. Data are identified using a notation including the group (one, two, or three) and the line of text on the transcript of the audio-tapes. For example, Group 1, 354 would indicate line 354 of the transcript for group one. The *Other Influencing Factors* are presented first to provide the reader with knowledge regarding potential biases that may have influenced the flow of discussion.

Other Influencing Factors: The Learning Environment

The purpose of this study was to examine student characteristics; yet the semi-structured approach to conducting focus group interviews encouraged discussion of any topic the students felt were important to their adjustment to CBL. A number of contextual factors regarding the learning environment emerged in the data. Sub-headings in this area included: resources and program design; tutor role and group differences; and student assessment.

Resources and Program Design

The data revealed elements of program design and resources that were of concern to participants. Student comments reflected a desire for more program orientation and a transition into CBL as an approach. Easing into it with more guidance at first would relieve “unneeded stress, and you know, un-needed floundering.” (Group 3, 1802).

... Nobody knew what was going on. Nobody knew how to study. I think there probably should have been some sort of transition period because, and I thought maybe 190 should have been that transition period you know.
(Group 3, 1227)

Some comments suggested it would be helpful to outline expectations in the course; and having a practice examination worth fewer marks at mid-term would help prepare them for the final.

Another thing was that outlining (*of*) all of the things we’re supposed to do in the course. I mean when we first went into nursing 190, I didn’t really expect to have research due every week. (Group 1, 1346)

It would be one thing if we had, like, the experience to learn on, say like a mid term that was worth like just a small percentage of our mark.
(Group 1, 1054)

In each CBL course, an important written assignment is the scholarly paper which is worth a significant percentage contributing to final course grade. Students indicated they felt unprepared in the first term, especially given that they do not enroll in a university level English course until later in the program.

I kind of wonder why when they design the program (*so*) that you don't take English until intercession, why are they putting so much weight on the papers. Like, they're expecting academic scholarly papers from people who have never taken any English course. (Group 2, 853)

Because even our paper, where we did need guidance, there was none. And we - some people haven't even taken an English class yet. (Group 3, 1246)

Students found some of the written course materials to be helpful.

It (*referring to the concept map*) has helped me enormously. Absolutely, I just find before my mind was going okay, I'm not sure what I should include.... I look at the concept map You know exactly where you're going. You don't wander around. (Group 1, 143)

Others did not share that opinion.

I have a little bit different of an experience, I guess. I mean, the concept map is good for just the basic outline of what we have to learn, but I find that when we get into specifics, things that we will actually be tested on in our exams, we don't - we're not really given a clear idea. (Group 1, 152)

I despise the concept map. If I wanted to take ideas and arrange them in the worst possible way, it would be that concept map. I think it's just terrible.... needs to be better organized, and more specific, especially if we only have a teacher half the time. (Group 2, 1248)

The timing and content of fixed resource sessions did not suit some learning needs.

I have to agree (*about*) the timing (*of*) the fixed resource sessions, especially in the first half... Could be either a basic introduction spurring an interest, finding all this out, and going from there, or tying it all together at the end. (Group 2, 1218)

And when their information is supplemental to what we are doing in the scenarios, where if they are just talking the same thing that we just did in scenario, it's like, I just did that, why am I sitting here listening to it again. (Group 1, 1479)

Tutor Role and Group Differences

Comments by participants in all three groups indicated students' difficulty reconciling the role. Some felt they would have better communication and relationships with their tutor if they had more contact with her/him in their group discussion.

I think if our tutor was with us all the time we would be more comfortable with her. We would be able to develop a relationship with her. (Group 1, 1316)

There were also comments reflecting ambivalence by some students regarding the entry of the tutor into the group.

... and all of a sudden the tutor comes in. It changes the atmosphere of the room from just all your group, from having someone to kind of evaluate you, and it changes the way you start talking and stuff like that, and then they leave again, and it changes again. It's really disruptive in that way. (Group 2, 257)

I think too that with a tutor there all the time, you do tend to have discussion with them. You start looking at them as almost a peer. (Group 2, 271)

Students indicated they find it troubling when tutors don't provide them with answers.

Like that kind of thing where they're just guiding you, and it doesn't have to be so sneaky. Just put it out in the open. 'This you need to understand really well.' Don't hint, hint, nudge, nudge me - because it's not a secret. (Group 3, 1510)

Especially when you have questions for your tutor, and they said, 'I don't know, I think you should research that.' ... we need to have an answer, you can guide it. (Group 2, 1121)

Students suggested they want more structure, direction, and guidance. Some statements from the data illustrate this clearly.

I think it should have more structure, more guidance. There's a lack of guidance. It's kind of like pointing somebody in a random direction, and letting them run, and then telling them ... they've been running in the wrong direction. Group 2, 564)

But it's like when we've already done the research, and we just want kind of clarification of whether we're on the right track kind of like this stuff. We don't get that and it's hard, especially when you're like - the whole group is depending on your information. Group 1, 788)

On the other hand, there are also suggestions by students that they want some autonomy and independence.

You can tell she (*referring to tutor*) wants it done her way, but she's - she will be willing. She respects the way you want to do it, because she trusts that the group has like, they've talked to each other. You know how your group works. (Group 2, 494)

The desire for more feedback was also noted on several occasions in the transcripts.

Most of our feedback, it's from our peers. They're just like us, we don't really know what's going on. I'd like more personal feedback. (Group 1, 795)

Like, how are we supposed to improve if we don't know what we're doing wrong? (Group 3 1623)

There were several instances where students expressed a concern with differences in what groups cover and differences in tutor approaches:

Where other tutors are like, 'key in on this,' and like your friends in the other groups are like well, 'our tutor told us you do it,' but it would be nice if your tutor was telling you the same thing, too, or the other tutor wasn't. (Group 2, 1372)

One thing I found really frustrating too is just speaking with other people in their tutorial groups, and how they like just the things they covered are completely different from what we covered, or just different aspects of them, and even like I know there was a lot of frustration even just on our first paper, and stuff like that from the different expectations that tutors told their tutorial groups.... (Group 1, 933)

Not even our two groups that we have the same tutor at the same time, and we come together once a week to share care files, we don't even do things the same way, and we have the same tutor and like the same schedule and everything. (Group 3, 645)

Student Assessment

There were indications of concern about the value of peer evaluations.

I don't feel like doing peer evaluations for every single scenario.... The feedback is always so redundant. (Group 3, 971)

There were several comments about the validity of tutor evaluations, given that the tutors were only there half the time.

The tutor is only there half of the time. I feel like, well how are you supposed to do an accurate evaluation of me? (Group 2, 247)

There is a strong sub-theme about guidelines for written work and marking of assignments, particularly the scholarly paper.

Things that are worth so much, like 30% of your final was on this paper, that I had no absolutely idea of how to do it. (Group 1, 1390)

Same with my paper, I was very confused by how they marked my paper. There was not a lot of feedback on it, and I got a low mark, and there wasn't a lot of feedback on what I did wrong, and on what I did do. (Group 3, 1702)

The student comments noted the challenge of writing the final exam because it was a different style of exam than what they had experienced in the past.

It's a different exam than anything I have ever written in high school, that's for sure. Or even any of the other classes, so. So I mean, and to a certain extent, you can't study for it.... a lot of it is like critical thinking, so it makes it even harder to study necessarily. (Group 1, 862)

I thought the tutorial exam too was a lot of like personal opinion, and some of the questions. Like, if you didn't know the client yourself you couldn't ask that question. And there is some that there is like two or three answers that sounded alright. (Group 2, 799)

There are indications in the data from two groups that students believe higher grades need to be attainable.

There are a lot of rumors going around, you know, that you can't get an A. (Group 3, 1665).

We do want to have the skills that we're getting from CBL, but when it comes down to it, I'm sure all of us would love to have the magical 3 point five to get all the scholarships, and to get honors, or first class standing, or whatever, so it's really hard. The balance between I'm happy with the skills I'm getting, but I'm not happy because I won't be able to do well. (Group 2, 826)

One student's comments summarize the overall comments in the data regarding the contextual factors related to the learning environment.

The theory of it is awesome, and just in practice there just needs to be some improvement done. (Group 3, 1755)

This completes the results of the content analysis of the other influencing factors identified by participants as important elements in the process of adjustment to CBL. Five additional themes were identified and each now presented.

Theme 1: From Needing to Know to Knowing How to Learn

This theme addresses the concerns students have regarding essential information needed in order to be successful academically. An additional element in this theme, the usefulness of the knowledge acquired in tutorial discussion in relation to real world nursing practice emerges. Hence, this

theme contains two sub-themes: determining essential information, and seeking relevance to nursing practice.

Determining Essential Information

Participants in all three groups expressed challenges about what they were supposed to be learning. They noted ambiguity regarding knowledge acquisition and were uncertain about the degree of detail related to the topics identified in course materials, particularly the concept map.

This is like you kind of have to - you second guess yourself a lot because you don't know if you're reading the right stuff, and if you're researching what you really need to know. (Group 3, 359)

In addition, all groups indicated they had difficulty determining essential information in the context of testable material and found this extremely frustrating and limiting to their learning.

I mean, the concept map is good for just the basic outline of what we have to learn, but I find that when we get into specifics, things that will be actually tested in our exams, we don't - we're not really given a clear idea. (Group 1, 152)

Another student expressed a similar view regarding the first year's experience.

Like you don't know what you're supposed to be getting out of it, really, and you don't know what the exams are gonna be like, kind of just studying and hope that you're studying the right thing, and it's just really frustrating. (Group 2, 845)

At the time of the focus group interview, students were nearing the end of their second six week course using CBL and had experienced one final examination in the first CBL course. The experience of writing an exam helped guide their learning in the second course and there was some indication of a growing sense of what was required.

About your research as well, like at the beginning you were just kind of putting everything in your research because you didn't want to miss anything But, now you kind of know where to go with it, and what

direction to take. And you know what information is of importance and what isn't. (Group 2, 297)

Seeking Relevance to Nursing Practice

All three groups commented on how the approach to learning in CBL, particularly the use of real-life scenarios, provided relevance to future clinical placements and nursing practice.

...these are real people, so you can really put yourself into that situation, because if you read a book, okay well that's just fiction. Well, no these are real people. These things have happened. So, you think, 'Oh okay so this could happen when I become a nurse. Maybe I'll get a situation like this,' and that really makes you remember things. (Group 1, 247)

The presentation and teaching skills students learned in tutorial were also viewed as relevant to future clinical placements and working with clients.

It will help a lot actually with the clinical, too, because when you're dealing with patients, you are an educator as well ... you can't just read off a paper You have to also use you feelings and your emotions and your gestures and all those other skills, and you learn that by talking to your peers in your group. Because you kind of like, you have an actual scenario, an actual patient (Group 3, 813).

Theme 2: From Looking for the Right Answer to Asking the Right Questions

This theme contains three key sub-themes: thinking more critically, exploring multiple perspectives, becoming more open-minded. This last sub-theme was particularly evident in groups one and three.

Thinking More Critically

Many instances of growth in critical thinking skills and dispositions were expressed by focus group participants. They indicated they were becoming more curious, thinking more, conversing in a more intellectual manner, and jumping to conclusions less frequently. As one participant expressed,

Yeah, like you tend not to judge because you're thinking, 'Like none of the diagnoses, like hold on - I'm gonna assess this first before I give my

opinion' Like, it helps you start thinking, like - to start thinking before you say something. (Group 1, 622).

Another student noted a big change in research and computer skills and becoming more discriminating about sources of information.

... I know if there is a piece of information I'm missing, I know that I can find it, and if someone tells me a random fact, I would think, 'Oh, is that evidence-based, and can you tell me where you're getting this information.' And if you can't tell me, I'm gonna find it, then I'll tell you. (Group 2, 927)

All three groups noted a change in their tutorial discussion from "reading" their research topic to the members of their tutorial group to more emphasis on teaching or explaining the topic. They also noted spending more time discussing the critical thinking questions (students are expected to include these with their information about specified topics) as opposed to providing information or facts.

And there's a transition in between reading off your paper, and teaching someone. In 190 a lot of us would bring in our research, and we would basically just read exactly off the paper. And now in 194 there's a lot more teaching the concept and explaining the concept rather than just reading it off the paper. (Group 3, 804)

Yeah, like our time changed. Before it's like, okay maybe ten minutes for presentation and it's like a minute for critical thinking. Now it's like a minute for presentation and then ten minutes for critical thinking. (Group 1, 700)

Exploring Multiple Perspectives

The CBL approach using small group tutorials provided these students with an opportunity to explore others' points of view.

I used to kind of see myself in conversations like, 'I'm right, you're wrong,' sort of thing. That's the way I kind of am for some things, and now with this course started, I see everyone else's point of view. I don't know like anything, but you see everybody else's point of view, and it's like they're right - they're more right, I it's just kind of, everything gets

swirled around. ... It's hard to get used to, but you learn that you're not always right.... (Group 3, 734)

Becoming More Open-Minded

The exploration of multiple perspectives in tutorial seems to have had a strong impact on some students, with a growing awareness of their own values and becoming more open-minded of others' views.

I used to think there was (*were*) two sides to everything, but now I see that there really isn't. Sometimes there is (*are*) 62 sides to it, and it doesn't mean that a person is wrong. (Group 3, 743)

We actually welcome other people's opinions, and then it changes our perspective on things, and then it helps us understand people more, because when you're just - when you just keep your opinions to yourself, then you're stuck throughout your nursing course with that opinion. But when you welcome other people, it opens the gate, and like you exchange those opinions, and then you realize You open your mind to different things that will help you understand the people that you will deal with. (Group 1, 380)

Theme 3: From Feeling Overwhelmed to Getting a Grip

The comments by participants confirmed the initial period of adjustment to CBL was difficult for most students. The audio-tapes and transcripts illustrate the high degree of agreement among group participants and between groups as well. Students used a variety of emotion-laden terms to describe what it was like adjusting to CBL including: frustrating, worrying, challenging, fending for ourselves, struggling process, completely different, stressful, daunting, difficult, shocking, and overwhelming.

Several sub-themes emerged in the data: recognizing difficulties, managing workload, feeling hopeless, identifying things that are helpful, and understanding and adjusting to CBL.

Recognizing Difficulties

Participants frequently expressed the difficulty with learning to trust the quality of work by their tutorial group members and the corresponding issue of addressing poor or different work habits among group members.

I would say there's times when there has been research I've gotten, and I'm like, 'that doesn't help me at all,' and I don't say anything about it because I feel like I should just go and look it up myself, because to go to class and 'like your research didn't help me at all,' and to say that to somebody after they have worked so hard to bring the information to you. There's no way you say that without hurting someone's feelings. And not just hurting their feelings, but to be respectful.... I think it would be very difficult, and I have no idea how I would do that. (Group 2, 678)

Students also recognized they had trouble adjusting to the lack of structure and guidance by the tutor and realized the need to become more self-directed.

... to go in there with that little structure, and experiment for ourselves and hope it turns out okay. (Group 2, 556)

As hard as it is to get used to the different structures and lack of guidance, I think it's also important to kind of look ahead. When you are looking at the scenarios, and the concept may, and the trigger questions, you're not going to be getting all that information with your clients. So in that sense ... you're going to have to be able to pick apart the scenarios of your client, so this kind of gives us good practice. (Group 2, 661)

Managing Workload

There is evidence in the data that students found the CBL process to be time-consuming and carried a heavier workload than that found in a full course load in a more traditional lecture-based program.

There's a lot of work that goes with CBL. Every week, there's so much research, and I don't have a full course load, so I can't imagine what it's like for all the other girls who do. (Group 3, 960)

Yeah, it's different because last year I had full courses, 5 courses each semester, and I have three courses right now, and it's way different from last year. I don't have time for anything. (Group 3, 1376)

Feeling Hopeless

The transcripts of all three groups included elements regarding a sense of hopelessness on the part of some students associated with the achievement of good grades and concern that they will never become fully adjusted to CBL.

I don't know that we will ever get used to it. Like do fourth year students? Are they getting used to CBL? Are they? Yeah. You kind of adjust to it. (Group 3, 1316)

... a girl who just graduated ... she just says it's hard. All she can say, cause like there's just - there is not really much else you can say, other than get cracking, 'hit the books.' You know, there is nothing more to it other than just deal with, hard work, get through it. (Group 3, 1442)

Like anyone who takes any science course at the U of A, like they should be able to get an A, if they want an A, but yeah, I don't think that's true for CBL. (Group 2, 1378)

Identifying Things that are Helpful

Throughout the transcripts, there are comments to suggest a number of things related to both people and resources that are viewed by students as helpful to their adjustment. Some of these included: peer support, staying in the same tutorial groups for the entire first term, helpful tutor behaviors, and support from senior nursing students.

... it helps to have that close community of people that you are a lot comfortable around.... To start off and have like, all the first semester with all the same people, kind of, I think it eased you into it a little bit better. (Group 1, 1105)

And another thing that has helped us adjust, well me, the responsible people in our group - it really helps. There are some people that tend to be really smart and they seem to know a lot of things and they just learn all of it. And we have a lot of that in our class, so it's a good thing. (Group 1, 1250)

Our first tutor ... at the beginning she, I think she guided us as best as she could. So she really understood us I think. (Group 1, 1153)

But that little bit of structure I think helped immeasurably. I think it really directed the group Ideas on brainstorming a little bit, breaking up research a little bit, even as much as keeping us on point sometimes

when we're getting off topic a little bit, and helping us to pick out, not every important element, but definitely letting us know if we're missing something.... It helps a lot. (Group 2 1010)

Understanding and Adjusting to CBL

There are some statements in the transcripts indicative of a growing recognition for the value of CBL and how it contributes to skills development. In some cases, comments suggest that students were gaining an understanding of the learning process in CBL and adjustment to this approach, although a certain degree of ambivalence was also noted.

Even now, I kind of have a grip on CBL. Yes, I'm not as stressed. (Group 3, 1316)

What really was a good learning experience for me I think, to really not to, to figure this out for yourself, because I think this is probably what it's all about. (Group 1, 1038)

And it was a good struggling process, it helped a lot, with what we're going to have to do when we get in nursing, but at the same time, it's - it wasn't effective. (Group 2, 759)

Theme 4: From Learning Individually to Learning Together

The influence of the group was a prevailing theme throughout the transcripts for all three groups. CBL places students in small groups and the responsibility for learning becomes a shared goal among the members. While there is an indication that students assume a greater sense of responsibility toward their peers, they also simultaneously recognize the need to become self-directed and responsible for themselves also.

Assuming Responsibility for Self and Group

The comments in the data suggest that students experienced a sense of mistrust when the group was in the forming stage.

That is one thing I was very uncomfortable with starting this, was whether or not, you know, because I don't like to trust my knowledge in other people I was kind of nervous that some people would just sort of slack off. (Group 2, 203)

The hardest thing for me is relying on other people to teach me, and it's not teachers that are teaching, it's students You don't know if they were a good student, you don't know how much effort they are putting in. (Group 3, 899)

Assuming the assigned roles within the group was also an initial concern for some, but the value of taking on roles in the group was recognized by others.

I know there is *(are)* times in our group when I will start talking to somebody else. 'Oh wait, I'm not the leader,' and kind of back off a little bit, and let other people have the chance Having the management team allows everybody to take on the role and further their skills in different areas that they might not be as developed in. (Group 1, 420)

There is some indication that the mutual dependence for essential information was motivated by the desire for good grades by some students.

The issue is we don't *(address poor quality work in the group)* if they have covered the relevant information, right? And has she covered enough information so I can write the exam off of what she's covered? I don't know until I actually write the exam, right? (Group 3, 628)

Students also identified connections between retention of information, active participation in learning, and a sense of engagement as benefits of the CBL approach.

Yeah, exactly. It's more fun though in class, talking and stuff. (Group 3, 456)

Because you have to participate. You can't just sit there. (Group 3, 480)

Yeah, it's not bad. It's better than studying. Yes, it's true. Yes, it gives you an objective. You go, you research it, you find it, you write it, and you're finished with it. Whereas, if you are studying, aaarrrrhhh! (Group 1, 1444)

During the first term of studies students became more “reliable” (Group 2, 183) and assumed responsibility for self and group to varying degrees.

Even when there isn't a management team, you can see, like you have a role in the group anyway, just according to your personality and your abilities. So and you're just functioning as a unit instead of individuals. (Group 1, 456)

You're more comfortable working with a team and it kind of makes you really close knit with one another. You depend on each other to get their work done so that it benefits you as well. (Group 2, 92)

Yeah, I have definitely become more accountable to a group. In a normal classroom situation with a lecturer I am not accountable to anybody, except for myself. (Group 2, 191)

Becoming More Self-Directed

Comments by participants point out that they recognized the self-directed feature of CBL.

Students are given a lot of individual control over what they learn, and how they want to learn it. (Group 2, 71)

Previously we were always used to being guided by a teacher, or professor and they always give you the information and stuff and now you have to find you own information. That is a change. (Group 3, 1067)

.... High school - easy breezy - the teacher tells you what you need to know, you sometimes study it, sometimes you don't ... you go and write the tests and you ace it. You come here. You have to set out study time. You have to be aware of the knowledge you need to know. (Group 1, 1016)

Other comments also reflected that students felt they had changed and had more motivation to engage in self-directed work.

I can learn from a book right now, because of these seminars. We have to do our research and we have to find out the information. Right now, anatomy and physiology, sure I can do it on-line no problem. Before I wouldn't, no way, no I would have to be there to listen. (Group 1, 1544)

I don't think I would have had the motivation to do it (*study on-line*), but now I've got the motivation. But now, now I can do. (Group 1, 1551)

This sense of self-responsible and self-management also extended to their personal lives. In two groups some participants noted they were prioritizing personal obligations.

Yeah, I completely cut myself off from my family, actually.... You know, and it's they totally understand, and it's not a bad thing. It's just that being able to tell yourself you know, now is not the time for like social activity.... Now is the time for school. (Group 3, 1333)

Theme 5: From Cocooning to Emerging: Transforming

Many of the comments in the transcripts revealed a sense of personal growth and maturing, a coming of age so to speak. The students' perceptions that they have experienced personal growth are congruent with two key variables of interest in this study. These form the sub-themes, building communication skills and gaining self-confidence.

Building Communication Skills

Students perceived the small group setting to promote the use of a growing set of communication skills that extended beyond the classroom.

You stimulate more conversation I think. It's like on a more personal level with people because you're able to use like more different communication skills that you didn't use before. (Group 1, 496)

I think in some ways I've become a lot more effective at trying to communicate what I really want to say, rather than putting all the stuff in there to make it sound good, more right to the point. (Group 2, 290)

Students also made a distinction between communication in small groups and more traditional lecture settings.

Because last year, all the stuff you just go to lecture classes. There is not a lot of talking between the professor and yourself in the class. You go to class, you listen, you take notes, you study. There's not like a three hour time where you communicate with your class. You participate, you give your input, you give constructive criticism, and you do all that kind of stuff, and you just kind of, it builds those communication skills. (Group 3, 758)

I think that, um because we're in a small group it also helps a lot too. Because we're not in, like say a lecture hall or whatever, just like regular people. You're not gonna like voice your opinion and not feel personal things. You know, like it's just easier. It's just, you know, not so much stressful. (Group 1, 559)

Gaining Self-Confidence

Closely related to the increased use of communication skill, the data suggested that many students had gained confidence in speaking in a group.

Yeah, I've learned to articulate my ideas a lot more clearly. I used to be so nervous when speaking in from of others. When you have to do and when you know, it's just a lot easier now. (Group 3, 770)

... I think I've become quite a bit more confident now. I can actually present my research. I don't have a problem with it. I don't worry about people judging me or anything. So, it's really good for my self-confidence and you feel so smart. It's like I know so many things, come approach me, I know it. (Group 1, 646)

As with communication skills, some comments reflect an increase in self-confidence and assertiveness beyond the school setting.

Self confidence I think even outside the group. Like, if something's wrong with, let's say I'm a customer ... and something is wrong ... now, I'm gonna say ... can you fix it? Like confident in that sense as well. (Group 1, 721)

Focus Group Findings Across the Three Groups

The findings from the three focus groups were dissimilar in emphasis placed on the key content areas in the themes, sub-themes, and other influencing factors. The data suggests that the perceptions of participants in

groups one and three were more similar to one another than those of participants in group two. On a continuum, the responses of the third group tended to fall in the middle of those in groups one and two. On the whole, group one expressed positive experiences and emphasized their perceptions of growth in open-mindedness and self-awareness of biases and values. This group also noted the relevance to nursing practice in the CBL approach more frequently than the other two groups. The field notes recorded by the researcher indicate fairly balanced participation except for two of the eight participants who were quieter members of group one (Worrell Field Notes, Nov., 2006).

Group three also expressed positive aspects of their experience, particularly in assuming responsibility for self and in developing communication skills. However, they also expressed a number of concerns related to contextual factors (marking, grading, and evaluation) that were similar to those of the participants in group two. This group was small, with four participants, but the group size did not seem to impact participation. Field notes confirm participation by all members, with one being somewhat quieter than the others (RA Field Notes, Dec., 2006).

Data from group two indicated students had a less positive view of their initial experience with CBL. They placed proportionately more emphasis on contextual factors (role of tutor and student assessment) than the members of the other two groups. In addition, data analysis from this group resulted in proportionately fewer category labels describing relevance to nursing, responsibility for self and group, critical thinking, and communication than what was found in analysis of groups one and three. Field notes reveal that two of the seven group members were not vocal at the beginning of the interview and a third member was quiet throughout (RA Field Notes, Dec., 2006). One member of this group stayed back after the interview to comment that she felt the discussion had been focused on the negative and group members had not clearly shared some of the positive aspects of their experience (Worrell Field Notes, Dec., 2006).

Putting it all Together: Comparing Results of the FYNSQ with Findings of the Focus Groups

The results of the questionnaire and findings of the focus groups contained a number of common elements which contribute to an understanding of the process of adjustment to CBL experienced by the first year nursing students who participated in this study.

Some students do not feel they are adjusting and are dissatisfied with the self-directed approach to teaching and learning used in this nursing program. Three topic areas related to the learning environment emerged in the analysis of focus group transcripts (resources and program design; tutor role and group differences; and student assessment). These topics were similarly expressed in the responses to the open-ended question on the FYNSQ. In addition, the range and mean of scores on the two CEQ sub-scale, clear goals and appropriate workload were neutral (means 12.25 and 12.72, respectively with a maximum possible score of 25). This could indicate that students feel the goals are not sufficiently clear and the workload is too heavy.

A second common thread in the data relates to the challenge students experienced in determining what they need to know. They are uncertain about knowledge acquisition necessary for academic success; although the mean of the final grades (Nursing 194) for the participants is typical for a first year undergraduate course. Some comments in both the focus group interview transcripts and the responses to the open-ended question on the FYNSQ note a growing sense of what is needed. One participant noted that being adjusted means, "I am benefiting from CBL classes and learning enough information." One of the Pearson correlation coefficients revealed a significant positive relationship between final grade and CCTDI sub-scale truth seeking ($r = .29, p < .05$). In addition, the sub-scale, retrieval of resources was positively and significantly related to adjustment ($r = .43, p < .01$).

Critical thinking dispositions were measured using the CCTDI and the overall scores were positively and significantly related to adjustment ($r = .34, p < .05$). In addition two sub-scales, analyticity and self-confidence were also positively and significantly related to adjustment ($r = .28, p < .05$ and $r = .33, p < .05$ respectively). The focus group transcripts illustrate students' perceptions of increased critical thinking, particularly in open mindedness.

The data provides examples of students' perceptions that adjusting to CBL is stressful at the beginning and a process of reconciliation that takes some time. The focus group data includes many emotion-laden terms used by students to describe their initial reaction - overwhelming, scary, and weird are a few examples. However, there is also an indication of "getting a grip" in comments on the focus group transcripts and the open-ended question responses (FYNSQ); some students are beginning to adjust. The sub-scales for measuring academic stress in the FYNSQ, PFC and EFC, did not correlate strongly to adjustment although the weak relationships were in the expected direction. PFC was positively related to adjustment ($r = .20$) and EFC was negatively related ($r = -.25$).

One item in the questionnaire asked students to rate their level of understanding of CBL, the mean of this question on a 5-point Likert scale was 3.57 and the scores were distributed across the full range of one to five. There was a strong positive significant relationship between participants' adjustment scores and understanding ($r = .65, p < .01$). When asked about their understanding of CBL as a learning approach during the focus group interviews, students were able to articulate many of the classic features of this approach. Students' descriptions included the use of real-life scenarios, small group work, and self-directed learning.

Becoming responsible for ones own learning as well as the learning of group members was another common finding across the data collection methods used in this study. The FYNSQ sub-scale, emphasis on independence was positively and significantly related to adjustment ($r = .60, p < .01$). The questionnaire did not address group factors, although the focus

group data and responses to the open-ended question on the FYNSQ revealed the significance of group dynamics and group process to the learning experience in a CBL course. Some comments by students described the challenge of learning to trust group members, particularly at the beginning of the program. The challenges of dealing with conflict within tutorial groups persist for some students. On the other hand, the group and other peers in the nursing program were also identified as resources in the provision of support, respect, and acceptance.

The theme *From Cocooning to Emerging* reflects that some participants in the focus groups were gaining in communication skills, self-confidence and personal growth as a result of their experience with CBL. They expressed an increased confidence in their ability to research nursing topics, to articulate their ideas in a group, and to motivate themselves for self-directed learning. As noted earlier, the self confidence sub-scale on the CCTDI was positively and significantly related to adjustment ($r = .33, p < .05$) as well as to final grade ($r = .28, p < .05$). As self confidence increases, so does the level of adjustment and academic achievement.

Summary of Key Results and Findings

This study set out to determine how first year nursing students describe changes in self-confidence, ability to engage in group work, and skills in communication over the period of their first term in CBL courses. The focus group results indicate that some students feel they have grown in these characteristics. Self-confidence in ability to research and critically discuss nursing topics within a small group; a broader repertoire of communication skills; and an increased understanding of group process, roles, and managing group differences or conflict have been presented in the findings. In addition, analysis of results of the CCTDI sub-scale confidence revealed a positive, significant relationship between confidence and adjustment to CBL as well as academic performance measured by final grade.

The second research question queried the relationship between uncertainty/ambiguity, coping with academic stress, ability to retrieve learning resources, and critical thinking dispositions and adjustment to CBL. Several sub-scales were included on the FYNSQ to examine these relationships using Pearson correlation coefficient. These results according to the variables of interest are summarized on Table 13.

Table 13
Study Results According to Variables of Interest

Variable of interest	Measure used	Correlation with adjustment	Correlation with final grade
Uncertainty, ambiguity	Clear goals (CEQ)	.63**	-.03
Coping with academic stress	PFC (SCOPE)	.20	.20
	EFC (SCOPE)	-.25	-.15
	Appropriate workload (CEQ)	.62**	.12
Self-direction	Emphasis in independence	.60**	-.05
	Inquisitiveness (CCTDI)	.25	.21
Ability to retrieve resources	Retrieval of resources	.43**	.17
CTD	CCTDI Total Score	.34*	.24
	Truth seeking (CCTDI)	.23	.29*
	Confidence (CCTDI)	.33*	.28*

*** Correlation is significant at the .01 level (2-tailed)*

** Correlation is significant at the .05 level (2-tailed)*

Regression analysis was also employed to consider the multiple correlations of predictor variables and overall adjustment. Three predictors of adjustment, appropriate workload, clear goals, and self confidence accounted

for 61% of the variance in adjustment ($p = .000$). These were appropriate workload, clear goals, and confidence.

The third research question considered student characteristics that contribute to adjustment to CBL. The findings of this study suggest that among the first year nursing students who participated, those with higher self-rated adjustment tend to view the course experience more positively overall and specifically agree to a greater extent the goals of the course are clear, there is an emphasis on independence, and the workload is appropriate. In addition, they have a higher self rating of their level of understanding of CBL. Students who rated themselves more favorably on the adjustment scale expressed knowing what is expected in terms of group process and knowledge acquisition, and rated themselves as having more capability in retrieving learning resources. Students who adjust also assume responsibility for their own learning and that of their group members, they have higher levels of critical thinking dispositions overall and particularly with respect to analyticity and self confidence.

The findings of this study contribute to understanding the phenomenon of adjustment to CBL among first year nursing students in the collaborative Baccalaureate Nursing Program at the University of Alberta. Chapter 5 will present a discussion of these findings and the implications for nursing education.

CHAPTER 5: DISCUSSION OF FINDINGS

Discussion

The purpose of this study was to describe the experiences of first year baccalaureate nursing students during initial exposure to CBL and to identify the factors that contribute to their adjustment. The findings of this study add knowledge about experiences of adjustment among first year nursing students, and build on the growing body of literature about CBL as a relevant approach in nursing education. Focus group interviews generated rich data regarding students' perceptions about changes in self-confidence, ability to engage in group work, and communication skills over their first term in CBL. The FYNSQ revealed several statistically significant relationships between specified student characteristics and student adjustment. While some aspects of the adjustment process have been described in the literature to date, empirical findings of this nature have not been extensively reported. The results of the FYNSQ and findings of the focus groups contribute to a deeper understanding of the students' characteristics that contribute adjustment to CBL.

The findings are discussed in relation to the purpose, research questions, and existing literature. This discussion is based on the conceptual framework which has evolved from its original form (see Figure 1) to an amended form that incorporates the findings of this study (see Figure 5). This discussion also includes limitations of the study, conclusions, and implications for nursing education.

First, a brief summary of the amended conceptual framework is provided. The conceptual framework depicts adult learning and development as an all encompassing concept within which the first year nursing students become engaged in a novel learning approach, CBL. This learning approach forms the academic environment which is also encompassed by the principles of adult learning and development. The students enter the program with unique

characteristics including attributes, skills, and knowledge. During the initial period of study in CBL courses, there is uncertainty and an attempt on the part of the student to make sense of this new way of learning. As the student progresses, certain characteristics needed for successful adjustment become clearer, and students build on these attributes in varying degrees and correspondingly progress through a process of adjustment. The findings of this study suggest a number of student characteristics/variables, as well as other influencing factors depicted in the conceptual framework, that are associated with students' self-rated adjustment to CBL. The first part of the discussion will focus on the study variables and interpretation of the corresponding results. The contextual factors identified in the focus group interviews were not the primary focus of this study. Since they relate closely to the learning environment, they will be addressed in the Implications for Nursing Education section of this report.

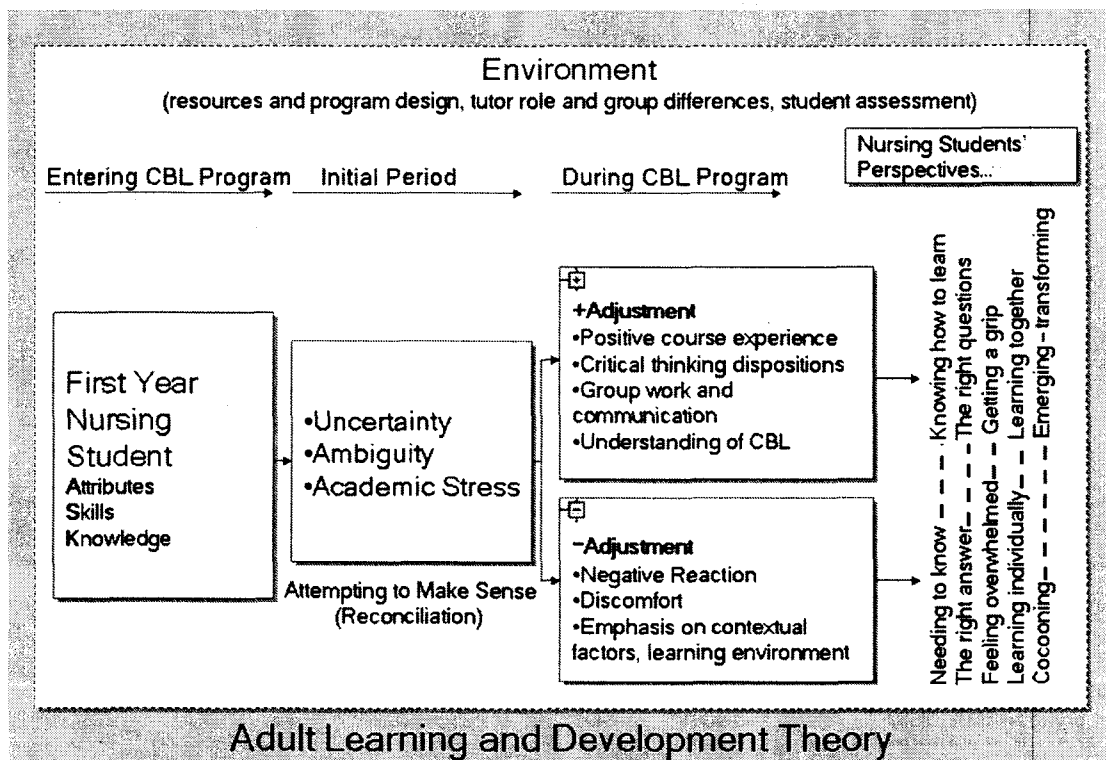


Figure 5. A conceptual framework of key elements leading to nursing students' adjustment to CBL

Entering a CBL Program: A New Learning Experience

CBL is based on the underlying principles of adult learning and self directed learning. Knowles (1975) believed self-direction to be a maturational process and a characteristic of adult learning. This bears consideration in the discussion of the findings of this study. The participants, who for the most part were 24 years of age or younger, had limited experience with post secondary education and had been accustomed to a teacher-centered approach to learning for the most part.

Chemers, Hu, and Garcia (2001) noted that the transition from high school to college places significant demands on young adults requiring higher levels of independence, initiative, and self-regulation. Arthur (1994) suggested adolescents entering post secondary education may face a constellation of demands including the demands resulting from a new living situation or physical move to a new location, as well as the demands of the developmental transition from adolescence to adulthood. It is difficult to determine the extent to which transition from high school to university impacted the findings of this study. Comments by focus group participants confirm that some students did experience a difference in the demands in high school compared with those in university; but it is unclear if the difference relates to attending university and/or to the CBL approach used in the nursing program.

Based on the focus group transcripts, it would be reasonable to infer some of the adjustment process relates to the transition from high school to university tempered by the view expressed by some students that this adjustment is compounded by the use of CBL. This is in part due to unique challenges presented by CBL, particularly in assuming responsibility for one's own learning and the degree of self-direction CBL entails.

Linking the Theory to CBL

Knowles (1975) stated that becoming increasingly self-directed is part of the maturational process and identified nine competencies contributing to the process of being self-directed:

1. Understanding differences in teacher-directed and self-directed learning.
2. Viewing ones' self as independent and self-directing.
3. Relating to peers collaboratively and viewing them as resources for learning.
4. Realistically diagnosing learning needs in concert with teachers and peers.
5. Translating learning needs into realistic learning objectives.
6. Relating to teachers as facilitators and taking initiative to use them as resources.
7. Identifying appropriate resources to achieve learning objectives.
8. Selecting and performing effective strategies to utilize learning resources.
9. Collecting and validating evidence of accomplishment of learning objectives.

These competencies are highly consistent with the approaches and essential features of PBL identified by Boud and Feletti (1998): using stimulus material to help students discuss a situation (real-life scenario); guiding students' critical thinking and providing limited resources; having students work in small groups with facilitated discussion by a tutor; getting students to identify their own learning needs and use resources for independent study; applying the new learning to the scenario; and evaluating their learning. According to Williams and Day (2007), CBL is a philosophical variation of PBL. In CBL the practice situations are relevant to the holistic nature of nursing practice emphasizing health and strengths, and not necessarily involving the solution to a problem. One of the sub-themes emerging from the focus group data, seeking relevance to nursing practice, reflects that some students recognize the use of real situations and real people as helpful in determining what a nurse would need to know and undertake in working with those clients in a professional therapeutic relationship.

Students also noted that exploration of these real situations in group discussion promoted retention of information. They believe when they are faced with similar nursing situations in the future, they will be able to recall the discussion and know what to do. This is in keeping with the underlying theoretical perspectives of the rational constructivist approach upon which CBL is built. This perspective considers knowledge acquisition as constructed from within, based on the learners' existing knowledge and the present experience. Learning is achieved through active engagement; and the independent study and small group discussion in CBL help learners to build and rebuild cognitive structures and meaning (Cleverly, 2003).

CBL also emphasizes self-evaluation and reflection in the group setting which is consistent with the transformative and critical learning perspectives. These theories maintain that knowledge is socially constructed. *Perspective transformation* refers to a "disposition toward critical thought that is realized by critically analyzing perceptions, cultural assumptions, and social expectations that dictate how human beings relate to their world" (Boychuk Duchscher, 2007, p. 455). Dialogue and consideration of opposing views using critical thinking skills are essential in knowledge development and form a key component of the CBL approach. Some focus group participants in this study clearly indicated their first term of study offered them the opportunity for deep discussion, self reflection, and increased awareness of multiple perspectives. This finding will be addressed in more detail later in this chapter as a key finding of this study entitled, *Emerging: Perspective Transformation*.

The Initial Period: Attempting to Make Sense

Dealing with Uncertainty and Ambiguity

The findings of this study identified that uncertainty and ambiguity of knowledge acquisition was an important factor in the adjustment process for participants. The literature consistently identifies uncertainty of knowledge as a challenge for students in CBL based programs or courses (Barrow, Lyte, & Butterworth, 2002; Biley, 1999; Edwards, et al., 1998; Ousey, 2003; & Solomon & Fitch, 1998). This uncertainty is wide-reaching in that it is linked to several

related situations. Barrow, Lyte, and Butterworth reported the feeling of uncertainty arose because of limited information provided in the scenarios; whereas Biley spoke of the desire for knowledge acquisition. In the pilot study conducted prior to this research project, uncertainty and ambiguity was part of two sub-themes; uncertainty related to knowledge acquisition, and ambiguity regarding the CBL process itself. These earlier findings are supported in this study.

An additional element concerning knowledge acquisition in the findings of this study has not been addressed in literature concerning CBL - the desire of students to learn what they needed in order to achieve academic success. In this study, the achievement of good grades was a motivation for some students. This external motivation for learning could be related to a number of factors: maturational level of participants (internal motivation becomes a more powerful force with adult development); past socialization and expected student role in traditional learning; or contextual factors, for example the desire for scholarship support.

Rideout (2001) suggested the assumption of responsibility for identifying learning needs, resources and strategies should be gradual and students should receive overt assistance in developing readiness for PBL during the initial period. In a study to evaluate PBL in a nursing module of an undergraduate nursing program, Barrow, Lyte, and Butterworth (2002) concluded substantive feedback by tutors initially is needed to decrease uncertainty. Comments by participants during focus group interviews in this study mirror the desire for more direct feedback, as well as clarity regarding important knowledge. There was consensus among the participants expressing the desire to have more structure during CBL and more direct guidance confirming essential information.

Williams (2001) noted content knowledge to be one of the factors influencing the display of autonomous learning. In this study approximately one quarter (26%) of participants reported work experience in a health care setting prior to commencing the nursing program. The lack of content knowledge

about the setting and role of nurses in the scenarios presented to students may have contributed to the sense of uncertainty and a desire for a gradual approach to the assumption of responsibility in seeking content knowledge. Interestingly, students found the experience of writing their first final examination in a CBL nursing course (Nursing 190) to be helpful in their adjustment. The exam provided them with a better understanding of the type and scope of content knowledge expected; as well as the type of questions (critical thinking and application) they would need to address in future examination situations.

While dealing with uncertainty of knowledge was noted as a challenge for students in this study, they also identified the value of dealing with ambiguity. They perceived the practical value in relation to real world nursing, where a nurse may not have all the information at her/his disposal. They also recognized the value of exploring all aspects of a nursing situation and the need to consider *more than the facts*. Some students' comments reflected a growing awareness of the value of asking the right questions instead of looking for the right answers. In addition, comments in the focus group interviews indicated some students realized part of the learning process in CBL was to *figure it out for themselves*. Some students accepted this as part of the challenge of adjusting to CBL, others viewed it less favorably, and one student described this as *being left adrift far from shore*.

These experiences are similar to those reported by Biley (1999). She conducted a qualitative study with 45 undergraduate nursing students participating in a PBL program and identified a category labeled "creating tension, which consisted of two sub-categories, namely making the transition and remembering the aims" (p. 586). The former is concerned with students making the transition from a traditional learning approach to PBL. This creates tension because students who are accustomed to traditional teaching tend to think concretely and superficially. Tension is also created because of the insecurity and confusion about the purpose or aims of PBL. This author suggested the tension may result in reduced learning efficiency in the early

stages of PBL. This leads the discussion to another factor related to adjustment explored in this study, coping with academic stress.

Coping with Academic Stress

Coping with academic stress was not found to be a significant factor related to adjustment or academic performance (final grade) for the participants in this study. However, the expected directions of the associations between these two outcome variables and PFC and EFC were found. The SCOPE instrument has been used with college students but no studies using undergraduate nursing students or CBL programs were found. It is possible that the instrument is not sensitive to this population or alternatively, there is no relationship among these variables.

Some authors have reported different findings. Struthers, Perry and Menec (2000) found that college students' stress at the beginning of the academic year directly and positively predicted their use of PFC and EFC, their motivation, and inversely predicted their introductory psychology course grade at the end of the academic year. Students who reported greater stress also reported greater use of both PFC and EFC; however, academic motivation associated with PFC and not EFC. In addition, motivation related positively to course grades. In other words, students who used PFC were more motivated, and the more motivated students had better grades. These authors concluded that encouragement of the use of PFC strategies by instructors would enhance student motivation and performance.

In this study, the FYNSQ scores indicated greater use of PFC than EFC. This finding is similar to that reported by Adejumo and Brysiewicz (1998). Their study involved 27 baccalaureate nursing students in the third year of a PBL program using the COPE instrument. They reported students' use a mix of PFC, EFC, and a third category, not useful coping strategies; with a predominant use of PFC. They suggested prolonged focus on emotions can impede adjustment and stand in the way of more problem focused approaches. This was not found to be the case in the quantitative component of this study;

but the qualitative findings suggest the use of EFC (particularly emotional venting) corresponded to poor self-rated adjustment of students.

Appropriate workload was also used to measure the extent to which students' perceived academic stress, on the premise that if the workload associated with CBL was viewed as reasonable, students would experience less stress. This premise was supported in the analysis where a significant positive relationship between appropriate workload and adjustment was evident. In addition, the workload scale was also found to be one of three predictors of adjustment according to regression analysis. The literature identifies workload as an important challenge in adjustment to CBL (Amos & White, 1998; Solomon & Fitch, 1998). Similarly, the focus group transcripts from this study indicate that some students found the workload and time demands of CBL greater than those in a traditional course or program.

*Evolving Attitudes, Skills, and Knowledge: Adjusting
Perception of Control (Self-Direction)*

This research study examined the relationship between student ratings of emphasis on independence and adjustment to CBL. Students rated independence relatively high. Although, a significant positive correlation was calculated between independence and adjustment, the sub-scale demonstrated low internal consistency and the results need to be interpreted with caution. One explanation for the low reliability may be the low variability of responses in this scale (Rattray & Jones, 2007). Based on the results of the FYNSQ it could be cautiously concluded that there may be a relationship between rating independence highly and a more favorable self-reported level of adjustment.

A second measure used to determine the relationships between self direction and adjustment and final grade was the inquisitiveness subscale (CCTDI). Correlation coefficients revealed very weak positive relationships. The contradictory results of this measure and the independence measure

suggest that inquisitiveness may not accurately reflect self-directedness and the two scales are not measuring the same construct.

Other studies have also considered self-direction among students in a CBL program. Williams (2004) conducted a study using the Self Directed Learning Readiness Scale (SDLRS) and focus groups to examine self directed learning of students at the beginning and end of the first year in a CBL program. She reported no significant change in students' SDLRS; but the analysis of focus group findings determined that students identified the development of many of the characteristics associated with SDL as reported in the literature. These included the use of a variety of resources, asking questions of themselves and others, and sharing relevant experiences in tutorial groups. Similarly, in this study, the focus group data also indicates students' perceptions of growth in their level of self-directedness which was consistent with the FYNSQ results.

Making Sense (Retrieval of Resources and Critical Thinking)

Retrieval of resources is viewed as an important skill in CBL because students are expected to gather information independently and share it with their group members as part of the scenario analysis process (Rideout, 2001). This is also an important skill in clinical practice as a basis for contributing to evidence-based practice in a knowledge based world (Williams, 2001). A positive relationship between retrieval of resources and adjustment has not been reported in the literature reviewed. In this study, students rated this ability high; but as with the independence scale, this scale did not demonstrate high internal consistency and therefore the results need to be interpreted with caution. In addition, the backward regression did not retain this scale as a variable in the final model.

Retrieval of resources may not have presented a learning challenge for most of the participants in this study in view of the demographic characteristics of the group. The Millennial Generation is characterized as being comfortable and adept with using technology (Martin, 2004). More mature students may find this to be a greater challenge. A study involving entry-level Master students in a physical therapy program found searching and accessing

resources to be a challenge (Williams, MacDermid, & Wessel, 2005). This challenge was similarly expressed by post RN students in the pilot study conducted by the author (Worrell, 2005).

CBL has been identified as an approach that facilitates the development of critical thinking. Much of the literature considers critical thinking skills and dispositions as outcomes of CBL; whereas in this study, critical thinking dispositions were explored as an antecedent to adjustment and academic performance. Stewart and Dempsey (2005) found positive relationships between CTD and grade point average as well as scores on standardized RN credential examinations in a longitudinal study of undergraduate nursing students, although the scores did not significantly increase over time in the nursing program. In this study, the overall CCTDI score and two of the sub-scales (confidence and analyticity) were positively and significantly related to adjustment; and the CCTDI sub-scales confidence and truth seeking were also significantly related to final grade. The focus group findings indicate that students perceive growth in a number of dispositions. The sub-themes of open-mindedness, analyticity, and systematicity were noted in the data.

One might conclude that some of the dispositions supporting critical thinking are important characteristics for the successful adjustment and academic success in a CBL program, particularly self-confidence. This is an important implication for developing strategies that promote critical thinking dispositions among nursing students.

Adapting to Roles (Group Process and Communication)

The literature consistently identifies challenges related to group process as a major factor in student adaptation to CBL (Barrow, Lyte, & Butterworth, 1999; DeMarco, Hayward, & Lynch, 2002; Edwards, et al. 1998; & Ousey, 2003). This is not unexpected in view of the nature of CBL and the strong emphasis on small group work as part of the learning process. The findings of this study support what has been previously published in this respect. Participants reported challenges with learning to trust the quality of work by group members and addressing issues of poor work within their tutorial groups. Meeting the

expectation of taking on assigned roles within the group, particularly the leadership role, was also a challenge for some.

On the other hand, the group was viewed as a strong support and resource for learning. Some participants identified the connection between retention of information, active participation and a sense of engagement as they became more accountable and responsible for their role in facilitating learning within their group. This phenomenon is theoretically supported by the cognitive learning theory regarding processing, storing, and retrieving information (Williams & Day, 2007).

Understanding (CBL and Content Knowledge)

In this study, the initial period of adjustment was clearly described as stressful and difficult by most students. They desired more guidance and information about the CBL process prior to admission and early on in the program. These findings are supported in the literature; several studies in undergraduate nursing education describe similar early challenges. Barrow, Lyte, and Butterworth (1999) reported that PBL was stressful initially due to uncertainty about the process and the change from dependent to independent learner. They also noted the challenges of group factors and differences in students' perceptions of the tutor role. Ousey (2003) also found that second year students were concerned with knowledge acquisition and group dynamics; those who disliked PBL had thought the course would be delivered using a traditional approach.

In the focus group transcripts, there is evidence that students could identify some of the key features of CBL and for some, a growing recognition of the learning process. The quantitative data based on self-reports revealed a full range of understanding regarding CBL and those who reported a high understanding also reported a high level of adjustment. Interestingly, the data revealed very weak relationships between understanding of CBL and final grade as well as adjustment and final grade. Students' awareness of the CBL process and a sense of adaptation to this learning approach did not necessarily mean that they would perform better academically.

Emerging: Perspective Transformation

In this study the process of adjustment to CBL was transformative for some students. A central factor in this process of adjustment is self-confidence. This variable was strong in both the quantitative and qualitative components of the study. It was the only variable of the many examined that was statistically significant and correlated with both adjustment and final grade. In addition, the focus group findings indicated a strong sense of growth in confidence for some participants which in turn resulted in a sense of satisfaction with their CBL experience. These students expressed confidence in a number of areas - researching and writing about nursing topics, speaking in public and communicating effectively in a group setting, being self-motivated and self-directed, and consciously exploring their own values and biases and accepting alternative points of view.

An analysis of the participants' experiences of adjusting to CBL in relation to the components of transformational learning demonstrates a close fit. Mezirow's model of transformational learning includes a number of components (not necessarily in sequence): (a) disorienting dilemma, (b) self-examination of feelings, (c) critical reflection, (d) exploring and planning new roles, (e) negotiating relationships, (f) building confidence, and (g) developing a new, more discriminating perspective (Taylor, 1997, p. 43). The findings and results are now considered according to these components:

1. **Disorienting Dilemma** - Students entering the program experience a period of bewilderment and stress as they try to reconcile with this novel learning approach, CBL. The realization and reality of experiencing CBL is perceived as sudden and one that has a big impact on their day-to-day life because of the significant workload.
2. **Self-Examination of Feelings** - The organization of learning, using real-life scenarios in small group tutorial sessions, with little advance notice or preparation, results in the need for students to examine their own feelings in a number of areas. They must acknowledge their feelings

about independent learning, relying on peers, adjusting to a different tutor role, and the impact on other roles and responsibilities.

3. **Critical Reflection** - The process of CBL also requires students to engage in critical reflection as they explore each scenario and discuss a wide range of topics related to them. This involves exploring their own values and beliefs, and considering how these might impact their ability to establish and maintain therapeutic relationships with clients in clinical situations. Critical reflection is also emphasized in the evaluation process, whereby students are expected to participate in self, peer, and group evaluation on a regular basis.
4. **Exploring and Planning New Roles** - Exploring and planning new roles is also clearly linked to the CBL process as students take on assigned roles in the group and build skills in group function and maintenance. The scenario analysis also provides a medium for students to explore and plan a variety of nursing roles for future clinical experiences.
5. **Negotiating Relationships** - In considering nursing roles, students have the opportunity for negotiating relationships. As their trust and confidence in the group builds, students become more comfortable with exercising some choice in their role(s). At the same time they assume greater responsibility for taking on roles they may not prefer (for example, the leadership role) because they feel supported and accepted within the group.
6. **Building Confidence** - As students gain a greater understanding of the CBL process and their own competence in the skills required to successfully adjust to CBL, their self-confidence builds. The findings of this study consistently support the role of confidence in adjustment and academic performance.
7. **Developing a New Perspective** - A new, more discriminating perspective emerges as the student transforms. According to Mezirow (1998), critical reflection is essential for transformation and changes in perspective or world view. In order to do this, learning must make the

experience explicit in order to reorganize or reconstruct the experience to direct future experiences (Merriam & Heuer, 1996). The CBL approach facilitates these activities. At the core, the need to explicate the self-directed and participatory learning experience gained with each scenario to the real world of nursing practice.

Characteristics of Students Who Adjust

The findings of this study, based on analysis of the quantitative and qualitative data, build on an understanding of the phenomenon of adjustment to CBL and help to create a composite view of students who possess characteristics that contribute to their adjustment. The students who rate themselves as being more highly adjusted are: clear about the expectations and goals of CBL; they know what knowledge is important for understanding the nursing situations presented in the scenarios; view the workload of the CBL course to be appropriate; view themselves as self-directed and assume responsibility for their own learning and that of the group; are able to retrieve appropriate learning resources; are comfortable with group process and assuming roles in the group; are building communication skills; and possess higher scores in CTD, particularly analyticity, truth seeking, and most importantly, self-confidence.

Limitations

Timing and Scheduling

The timing of the data collection to occur in the latter half of the first term served to control for recollection and memory issues. However, the schedule for the administration of the questionnaire may have been a limitation. Students were scheduled to attend a class 45 minutes after the end of the class in which the data collection occurred. In order to facilitate completion of the questionnaire in this short time frame between classes (over the lunch

period), students were given bag lunches following completion of the survey. Ninety-seven completed surveys were collected; however, 44 (45.3%) of these surveys could not be used in the data analysis and interpretation. Twenty-nine consent forms indicated lack of informed consent whereby one or more of the “no” items on the consent had been checked off by the participants. An analysis of the consents with items marked “no” revealed that the most frequently checked items on the consent included: (a) Have you had an opportunity to ask questions and discuss the study? And (b) Have you read and received a copy of the information sheet?

The remaining 15 unused surveys marked “no” on the consent in response to the item, “Do you consent for release of the following information: your final grade fro nursing 194, and the results of the California Critical Thinking Dispositions Inventory (which you completed in September)?” Thus, 53 completed FYNSQ with valid consent were used in the data analysis. Two of the 53 students who completed the FYNSQ did not complete the CCTDI and therefore, the final sample size used for some of the data analysis was 51.

The large number of invalid consents could indicate that the protocol used for distribution of the information letters to potential participants ahead of time was not effective. Several students did not read the letter or did not feel they had been given adequate opportunity to ask questions during the in-class description of the study in the week prior to the survey administration.

Sampling

Sample size for both aspects of the study (questionnaire and focus group interviews) is another limitation to this study. A sufficient number of questionnaires were completed to allow for the planned statistical procedures described in the analysis and results sections of this report. The samples of 51 and 53 account for approximately 30 to 32% of the students registered in Nursing 194 in September 2006. Although this may be viewed as sufficient, the descriptive statistics illustrate that study participants were quite homogeneous and the number of participants limited variability of responses (although the

scores on the instrument scales were normally distributed). This may also account for some of the low internal consistency estimates of some scales.

The small size of one of the three focus groups was problematic. Although participants were randomly selected, snowballing was also used. One concern about the smaller group was that the stronger willed members may have dominated the discussion and skewed the data toward their opinions (Jackson & Gillis, 2002). The field notes indicated that the smaller group discussion took about the same length of time as the previous interviews and was balanced among the participants. Based on a review of the transcripts, the third group interview generated a similar number of first level content codes to that of the other two focus groups. In some respects, the size may have promoted more balanced participation as group members were more visible in a smaller group.

In this study, the use of convenience sampling and volunteering (snowballing used for focus group recruitment) may limit the extent to which the findings can be generalized to the larger population. The experience of adjustment to CBL among first year nursing students as described in this report may not apply to other groups of students in CBL programs, or to students in other programs.

Response Bias

The nature of the data based on self-report may be a limitation. The connection between what people say and do, and thus the extent to which the data reflects reality, may limit the generalization of findings (Gillis & Jackson, 2002). On the other hand, one of the guiding principles of survey research is that "survey responses reflect the reality of the respondent" and participants will, under normal circumstances, answer in good faith (Hutchinson, 2004, p. 287).

Most authors suggest the use of both negatively and positively worded to reduce response error (Hayes, 1992); Rattray & Jones, 2007). However, it is acknowledged that this may introduce additional response errors (Gillis & Jackson, 2002). In this study, a mixture of positively and negatively worded

items was used to reduce acquiescent response bias; however, this may have resulted in response error. Based on the raw data and descriptive statistics the negatively worded questions from the sub-scale, retrieval of resources, may have been misinterpreted by the respondents.

Using more response categories (for example, the use a 10-point Likert on the SCOPE instrument) should lead to slightly higher correlations between index items and be better at reflecting true values due to the resulting increase in variability (Gillis & Jackson, 2002). However, in this study, some students who participated in the pre-test found the use of 10 choices on the SCOPE scales difficult. The decision to keep the original number of response categories in order to maintain integrity of the instrument may have resulted in some response set bias.

Instrument Development

The design and development of questionnaires requires a logical and systematic approach using preplanned methods to establish reliability and validity. The parameters of this study allowed for the instrument to be pre-tested; but time did not permit more extensive testing. Established instruments with extensive use and reported measures of reliability and validity were used wherever possible. In some cases, sub-scales in some of the instruments did not have sufficient internal reliability. Using only three of five CEQ sub-scales proved to be less than optimal. The independence sub-scale was problematic in its original form (the CEQ items) as well as the revised version following the pre-test. The investigator developed items in the retrieval of resources sub-scale tested well in the pre-test but not in the subsequent questionnaire administration.

A much more intensive period of instrument development and psychometric testing would have been helpful to avoid some of these issues. This was beyond the scope of this descriptive study; however, the findings presented in this report could provide a useful starting point for further development of an instrument to measure student adjustment to CBL.

Unexamined Variables

The regression analysis revealed that the predictor variables (with greatest significance) used in this study accounted for approximately 60% of the variance in the independent variable, adjustment to CBL. There are other unexamined variables which perhaps account for the remaining variability. Several come to mind including orientation to learning (learning style preferences), internal versus external motivation, and situational factors (group and tutor differences). Further research is needed to explore other variables that may predict adjustment to CBL.

Implications for Nursing Education

Other Influencing Factors

The findings of the focus group interviews pointed to aspects of the learning environment and related contextual factors that students' viewed as noteworthy during their initial experience in a CBL program. These contextual factors included a number of issues including program design and resources, tutor role and group differences, and student assessment. It is not possible to determine the extent to which these factors are related to the general transition from high school to university, the CBL approach, and/or implementation of CBL. It might be reasonable to conclude that all three of these aspects impact the process of adjustment.

The findings of this study suggest that students were not fully informed of the nature of CBL prior to beginning the program although there is some information about CBL on the faculty website. Perhaps the initial experience would be less frustrating if students were given more explicit information about CBL as part of the application process. This information needs to be reiterated and expanded early in the program. The findings suggest students prefer a more detailed orientation and introduction to CBL. Many suggested a transition period.

The implementation of CBL requires adequate human and material resources. Most post secondary educational institutions are designed to accommodate large lecture-based classes not conducive to small group work (Frost, 1996). For an optimal CBL classroom round seating and equipment such as whiteboard, flip chart, personal computer, television monitor, video, and filing cabinet are recommended (Cleverly, 2003). This ideal environment is difficult to achieve in a large institution with increasing enrollments and systemic constraints.

Participants also made suggestions related to the enhancement of some course materials. These included: clearly articulated concept maps; handouts summarizing text readings to identify essential (testable) information; a mid-term examination to reduce the percentage weight of the final examination (at least in the first course, Nursing 190), to add clarity regarding knowledge acquisition; writing workshops addressing APA format and requirements for scholarly papers; more detailed and consistent marking guidelines for assignments; and the organization of the FR sessions to synchronize with scenario topics and supplement rather than repeat content covered during tutorial discussions.

Literature on the implementation of programs using a problem based or inquiry based approach to learning, indicates the need for initial and ongoing staff development (Cleverly, 2003). CBL is a novel experience for nursing educators as well as students, and requires a paradigm shift from a teacher centered to learner centered approach. The instructor role changes from that of expert to facilitator of learning and involves a shift in power and authority. These shifts require different skills and teaching strategies for some instructors (Frost, 1996). In describing the implementation of PBL in a second year nursing course, Morales-Mann and Kaitell (2001) reported that "all facilitators expressed the need for intensive individual and team preparation...." (p. 18). Another study reported tutor concerns with finding the balance between the role of facilitator and expert (Edwards, Hebert, Moyer, and Peterson et al., 1998). Faculties using CBL should consider multiple and flexible strategies for

initial and ongoing staff development. These include: a comprehensive orientation; workshops and seminars; peer discussions and mentoring; a facilitator's handbook; and the use of electronic records.

In addition, the needs of first year students in a CBL program may be unique with respect to the degree of structure and guidance provided to them early on in their studies. The findings of this study suggest that the provision of structure and clear guidance early in the program is viewed by students as helpful tutor behavior and it is stressful when tutors do not answer questions or tell a tutorial group directly if they are on the right track. On the other hand, an important consideration is determining how much structure is facilitative and how much is detrimental to empowering students to *figure this out* for themselves in the development of self directedness. In large programs it is important for tutors to be consistent in the amount and guidance provided to tutorial groups.

A related issue then, particularly in a large program with several sections of the same course running concurrently, is to determine and achieve an appropriate balance between tutor autonomy and consistency among tutors and tutorial groups. Concern with inconsistency among faculty tutors has been reported in the literature (Williams & Day, 2007). A similar concern was expressed by focus group participants in this study. They suggest a basic structure or framework for how CBL tutorial groups should work that is similar across all groups in one course.

In this study, participants noted challenges associated with group formation and changing tutors. They found it very helpful to remain in the same tutorial groups for two consecutive six week courses and expressed concern with the degree to which group forming in the coming year would result in the need for readjustment. Some participants suggested it would be like starting all over again.

Another contextual factor noted in the focus group findings related to student assessment and issues regarding marking, grading and evaluation

processes. The focus group data indicated that students perceived a lack of clarity about marking and evaluation processes both in their nursing courses and the broader university grading system. Assessment strategies in a CBL program emphasize valued learning outcomes such as “critical thinking, self direction, collaboration, leadership, and reflection” (Williams & Day, 2007, p. 230). Some of these assessment strategies are unlike ones students may have experienced in their past educational experiences where the emphasis was content and knowledge recall. This was reflected in comments in the focus group transcripts. Students might feel more comfortable during the period of adjustment to CBL if they were given more explicit information and guidance to enhance their acceptance of assessment strategies used for the learning outcomes of the program.

The findings of this study suggest that students adjust and reconcile with CBL within the first term of study to varying degrees along a continuum. At one end, a few students feel they will never adjust and consider CBL to be a poor fit for their learning style, preferences, and/or needs. At the other end of the continuum are students who have recognized the value of CBL and embrace this approach to learning. These students describe their experience as one in which they have developed important communication skills, gained self-confidence, and have learned to explore multiple perspectives with a new attitude of open-mindedness and acceptance. How then can nursing educators support students and facilitate their progress along the continuum of adjustment striving for transformative learning?

Enhancing Adjustment

Taylor (1997) identified ways to foster transformative learning as follows: (a) being empathetic, caring, authentic, sincere, possessing integrity; (b) promoting a sense of openness, safety, and trust; and (c) using instructional methods that support a learner-centered approach such as promoting autonomy, participation, reflection, and collaboration.

These strategies require strong skills and commitment on the part of nursing educators who understand the philosophical and theoretical underpinnings of CBL as an approach to adult learning. In addition, educators require sound knowledge of adult development and must possess the ability to adapt their approach to suit the needs of the learner without compromising the principles of CBL. During the early stages of CBL, tutors need to provide direction, reassurance and support for learners (Lunyk-Child et al., 2001). At the beginning, the use of explicitly stated structure regarding the process of CBL and role modeling group process and communication skills creates a safe atmosphere. The development of a collegial and collaborative relationship between tutors and students further builds trust and enables students to receive feedback objectively and realistically. They are then able to evaluate and reflect on their learning with a greater sense of autonomy, self-confidence, and motivation resulting in positive learning outcomes and greater independence in the learning situation.

Conclusion

Changes in the nature of nursing practice and the knowledge necessary to engage in such practice require a stronger reliance among professional nurses to engage in self-directed and lifelong learning using strong critical thinking, communication, and group process skills. CBL is an approach to teaching and learning that facilitates the development of these attributes, skills, and knowledge.

The findings of this study contribute to knowledge and understanding of the experience of first year nursing students undertaking a baccalaureate degree at the Faculty of Nursing, University of Alberta. This work also adds to the knowledge base that will facilitate the ongoing development of effective teaching and learning strategies for this important group of students, foster

effective learning, build on the research currently being conducted by faculty members, and assist with program planning and evaluation strategies.

The challenges facing nursing educators in a CBL environment are many, but the rewards are also great. It is a privilege to share in the emergence of a self-directed learner who has experienced a perspective transformation. In gaining a broader perspective and critically reflecting on personal values and beliefs, nursing students can look beyond themselves and recognize others. In so doing, these nursing students will become effective professional nurses with the capacity to move beyond reflection to praxis and contribute to equity in health care and a just society.

If he is indeed wise, the teacher does not bid you enter the house of wisdom, but rather he leads you to the threshold of your own mind.
(Kahlil Gibran, the Prophet)

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Appendix A

First Year Nursing Student Questionnaire

The First Year Nursing Student Questionnaire includes three parts: (a) background information, (b) experiences with your first CBL courses, and (c) coping with academic stress. This information will help me to understand your experiences. Please answer each question according to the directions. However, if there are questions that you would prefer not to answer, feel free to leave the response for those questions blank.

Enter your seven-digit U of A student identification number: _____

Part A: Background

Check the appropriate response:

1. What is your current age?

- ≤ 19
- 20-24
- 25-29
- 30-34
- 35-39
- ≥40

2. What is your gender?

- Female
- Male

3. What is your current marital status?

- Single
- Married
- Separated/Divorced
- Widowed
- Other

4. How many years has it been since you graduated from high school?

- 0-4
- 5-9
- 10-14
- 15-19
- ≥ 20

5. What educational experiences have you had since graduating from high school? (Check all that apply).

- University course(s)
- College or diploma course(s)
- Certificate
- Other
- None

6. Select the single best descriptor of your work experience setting and role on entry to Baccalaureate Nursing Program.

6.1 Setting (choose only one item):

- Health care institution
- Retail (e.g. department store)
- Hospitality industry (e.g. restaurant)
- Office
- Other (specify) _____

6.2 Role (choose *only* one item) :

- Care Aide
- Clerk
- Server/Waiter
- Receptionist
- Other (specify) _____

7. What is your employment status during this term of study?

- Full-time
- Part-time
- Casual
- Not employed

8. What is your current student status?

- Full-time
- Part-time

9. Skills in Retrieving Resources.

For the following items, please indicate the extent to which you agree or disagree with the statements. Circle the appropriate number using the scale below.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither agree nor disagree/neutral (N)
4. Agree (A)
5. Strongly agree (SA)

	SD	D	N	A	SA
I have the skills to use a computer for producing documents	1	2	3	4	5
I have the skills to use a computer for communicating by e-mail	1	2	3	4	5
I have difficulty attaching and sending documents (files) from my computer to someone else using e-mail	1	2	3	4	5
I have the skills to retrieve learning resources by searching the web	1	2	3	4	5
I do not have the skills to use on-line databases (e.g. CINAHL, MEDLINE)	1	2	3	4	5
I have the skills to use the university library system	1	2	3	4	5
I am able to identify and locate a range of relevant learning resources for my course work	1	2	3	4	5
I am not able to critically evaluate the credibility of resources	1	2	3	4	5

Part B: Course Experience Questionnaire (CEQ)¹

When answering these questions please think about Nursing 194 as a whole rather than identifying individual subjects, topics or tutors. The questions relate to general issues about your course, based on comments that students have often made about their experiences of university teaching and studying.

10. For the following items, please indicate the extent to which you agree or disagree with the statements. Circle the appropriate number using the scale below.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither agree nor disagree/neutral (N)
4. Agree (A)
5. Strongly agree (SA)

	SD	D	N	A	SA
It's always easy to know the standard of work expected	1	2	3	4	5
The workload is too heavy	1	2	3	4	5
I take responsibility for my own learning and that of my group members*	1	2	3	4	5
I am having difficulty getting used to CBL*	1	2	3	4	5
I take the initiative to learn more about things that interest me*	1	2	3	4	5
You usually have a clear idea of where you're going and what's expected of you	1	2	3	4	5
It seems to me that the syllabus tries to cover too many topics too quickly	1	2	3	4	5

¹ Wilson, K. L., Lizzio, A. & Ramsden, P. (1997). The development, validation and application of the course experience questionnaire. *Studies in Higher Education*, 22(1), 33-53 (except items with an asterisk).

CBL provides a supportive environment with guidance rather than directives*	1	2	3	4	5
I am adapting to my role as a nursing student in a CBL program*	1	2	3	4	5
We are generally given enough time to understand the things we have to learn	1	2	3	4	5
I am satisfied that I chose this nursing program using CBL*	1	2	3	4	5
It's often hard to discover what's expected of you in this course	1	2	3	4	5
I am finding the academic work in my CBL course(s) difficult*	1	2	3	4	5
The volume of work in this course prevents me from thoroughly comprehending what I am learning	1	2	3	4	5
In collaboration with my tutor, I have established learning objectives for CBL courses*	1	2	3	4	5
There's a lot of pressure on you as a student here	1	2	3	4	5
I have an appropriate level of understanding of CBL*	1	2	3	4	5
The aims and objectives of this course are NOT made very clear	1	2	3	4	5
The instructors are clear from the start what they expect from students	1	2	3	4	5
I am making sense of the CBL approach to learning*	1	2	3	4	5
In this CBL course, as a student, I am not given the opportunity to participate in the evaluation of myself or the group*	1	2	3	4	5
I feel that I have adjusted to CBL*	1	2	3	4	5

Part C: Student Coping Instrument (SCOPE)²

Take a moment and imagine yourself doing poorly on an exam as part of a university course. Next, respond to the items provided based on the statement: When I do poorly on an important exam at university, typically ...

12. Please indicate the extent to which the statements are characteristic of how you would respond. Circle the appropriate number using the scale below.

1. Extremely uncharacteristic (EU)
2. Largely uncharacteristic
3. Moderately uncharacteristic
4. Somewhat uncharacteristic
5. Minimally uncharacteristic
6. Minimally characteristic
7. Somewhat characteristic
8. Moderately characteristic
9. Largely characteristic
10. Extremely characteristic (EC)

	Extremely uncharacteristic					→	Extremely characteristic				
I think about how I might best handle the problem	1	2	3	4	5	6	7	8	9	10	
I think about what steps to take	1	2	3	4	5	6	7	8	9	10	
I think about the reason(s) why the situation occurred	1	2	3	4	5	6	7	8	9	10	
I feel hopeful	1	2	3	4	5	6	7	8	9	10	
I try a different study technique	1	2	3	4	5	6	7	8	9	10	

² Struthers, C. W., Perry, R. P., & Menec, V.H. (2000). An examination of the relationship among academic stress, coping, motivation, and performance in college. *Research in Higher Education, 41*(5), 581-592.

	Extremely uncharacteristic					→	Extremely characteristic				
I try to get emotional support from friends and family	1	2	3	4	5	6	7	8	9	10	
I act as though it hasn't happened	1	2	3	4	5	6	7	8	9	10	
I reduce the amount of effort I put into solving the problem	1	2	3	4	5	6	7	8	9	10	
I concentrate my efforts on doing something about it	1	2	3	4	5	6	7	8	9	10	
I feel motivated	1	2	3	4	5	6	7	8	9	10	
I use my study guide	1	2	3	4	5	6	7	8	9	10	
I talk to someone about how I feel	1	2	3	4	5	6	7	8	9	10	
I say to myself "this isn't real"	1	2	3	4	5	6	7	8	9	10	
I get upset and am really aware of it	1	2	3	4	5	6	7	8	9	10	
I feel confident	1	2	3	4	5	6	7	8	9	10	
I take additional action to try to get rid of the problem	1	2	3	4	5	6	7	8	9	10	
I discuss my feelings with someone	1	2	3	4	5	6	7	8	9	10	
I do what has to be done one step at a time	1	2	3	4	5	6	7	8	9	10	
I try to come up with a strategy about what to do	1	2	3	4	5	6	7	8	9	10	
I let my feelings out	1	2	3	4	5	6	7	8	9	10	
I skip class	1	2	3	4	5	6	7	8	9	10	
I refuse to believe that it happened	1	2	3	4	5	6	7	8	9	10	

	Extremely uncharacteristic					→	Extremely characteristic				
	1	2	3	4	5	6	7	8	9	10	
I buy study guide(s) when available	1	2	3	4	5	6	7	8	9	10	
I get upset and let my emotions out	1	2	3	4	5	6	7	8	9	10	
I pretend that it hasn't really happened	1	2	3	4	5	6	7	8	9	10	
I feel a lot of emotional distress and find myself expressing those feelings	1	2	3	4	5	6	7	8	9	10	
I drop out of the class I'm doing poorly in	1	2	3	4	5	6	7	8	9	10	
I make a plan of action	1	2	3	4	5	6	7	8	9	10	
I give up trying to reach my goal	1	2	3	4	5	6	7	8	9	10	
I feel competent	1	2	3	4	5	6	7	8	9	10	

Thank you!

I appreciate the time you have taken to complete this questionnaire. I'd like to assure you that the information you have shared with me will remain strictly confidential.

What additional information would you would like to add to what has already been asked in the above questions?

Appendix B

California Critical Thinking Dispositions Instrument (CCTDI)

The CCTDI (Facione & Facione, 1992) consists of 75 declarative statements with 9-12 items in each of seven subscales. It uses a 6-point Likert scale anchored by (1) strongly agree to (6) strongly disagree.

The seven subscales, definitions and examples of an item in each are noted below (Facione & Facione, 1992; Profetto-McGrath, 2003):

Analyticity scale (demanding the application of reason and evidence and inclined to anticipate consequences)

It's never easy to decide between competing points of view

Open-mindedness scale (tolerance of divergent views and willingness to seriously entertain alternatives. Self-monitors for possible bias)

It concerns me that I might have biases of which I am not aware

Truth-seeking (courageous desire for best knowledge, even if such knowledge may fail to support or undermine one's preconceptions, beliefs, or interests)

It bothers me when people rely on weak arguments to defend good ideas

Systematicity (valuing organization, focus and diligence to approach problems at all levels of complexity)

I always focus the question before I attempt to answer it

Self-Confidence (trusting one's own reasoning skills, inclined to use these skills rather than other strategies, to respond to problems)

I'm proud that I can think with great precision

Inquisitiveness (curious and eager to acquire knowledge and learn explanations even when the applications are not immediately apparent)

When faced with a big decision, I first seek all the information I can

Maturity (prudence in making, suspending, or revising judgment)

Things are as they appear to be

Appendix C

Revisions to FYNSQ Following Pre-Test

Part A, Background, Item 6

Select the single best descriptor of your work experience setting and role on entry to the Baccalaureate Nursing Program (choose only one item under each heading). "Single best descriptor" bolded and for each sub-question, 6.1 Setting and 6.2 Roles, the cue "choose only one item" was repeated.

Part B, CEQ, Item 1

Original wording, "It's always easy here to know the standard of work expected." Revised - omit the word "here."

Part B, CEQ, Item 7

Original wording, "The sheer volume of work to get through in this course means you can't comprehend it all thoroughly."
Revised - "The volume of work in this course prevents me from thoroughly comprehending what I am learning."

Part B, CEQ, Item 19

Original wording, "The staff here make it clear right from the start what they expect from students."
Revised - "The instructors are clear from the start what they expect from students."

Part B, CEQ Emphasis on Independence Items

Original wording

"There are few opportunities to choose the particular areas you want to study."
"The course has encouraged me to develop my own academic interests as far as possible."
"Students have a great deal of choice over how they are going to learn in this course."
"We often discuss with our instructors how we are going to learn in this course."
"There's very little choice in this course in the ways you are assessed."

Revised

"I take responsibility for my own learning and that of my group members."
"I take the initiative to learn more about things that interest me."
"CBL provides a supportive environment with guidance rather than directives."
"In collaboration with my tutor, I have established learning objectives for CBL courses."
"In this CBL course, as a student, I am not given the opportunity to participate in the evaluation of myself or the group."



Appendix D

Information Letter for Instructors

Dear Year One Instructor:

As you may know, I am a Master in Nursing student and will be conducting a study to describe the experiences of first year nursing students during their initial exposure to context-based learning (CBL) and to identify some of the characteristics that contribute to their adjustment. I am conducting this study in partial fulfillment of the requirements for a Master in Nursing in the Teaching and Learning Stream.

In order to explore this topic, I have received approval from Joanne Olson, Associate Dean Academic Planning & Undergraduate Programs, to collect data (confidentially) from a group of students who are almost at the end of their first CBL term. Data will be collected in two ways:

1. A questionnaire following the Nursing 194 class in the final week of November, 2006.
2. Audio-taped focus groups with students to discuss their experiences with CBL and what they feel are some of the changes that have taken place as a result of their early experience in a CBL course.

I will be in contact with you to discuss this study and answer any questions you might have.

For your information, I am enclosing a copy of the information letter that is being given to students currently registered in Nursing 194. This letter includes a description of the questionnaire administration procedures and focus group interviews, statement indicating no anticipated discomfort or risks, costs and benefits, statement of confidentiality and contact information.

I look forward to the opportunity to discuss this with you in the near future.

Regards,

Judy Worrell



Appendix E

Information Letter for Students: Questionnaire

Investigator: Judith A. Worrell
MN Candidate
Phone: 780-436-6454

Supervisor: Dr. J. Profetto-McGrath
Associate Professor, FON
780-492-1597

Dear Nursing Student:

I am Judy Worrell, a Master in Nursing student conducting a study to describe the experiences of first year nursing students during their initial exposure to context-based learning (CBL) and to identify some of the characteristics that contribute to their adjustment. I am conducting this study in partial fulfillment of the requirements for a Master in Nursing in the Teaching and Learning Stream.

In order to explore this topic, I wish to collect data that will be obtained (confidentially) from a group of students who are close to the end of their first CBL semester and taking Nursing 194. Data will be collected in two ways:

1. A questionnaire following a Nursing 194 class in the final week of November 2006.
2. Audio-taped focus group interviews with students to discuss their experiences with CBL and what students believe are some of the changes that have taken place as a result of their early experience in a CBL course.

Questionnaire Procedure:

At the end of one of your regularly scheduled Fixed Resource Sessions or lab times near the end of Nursing 194, I will come to your class and explain the study. A week later, a research assistant will come to class and if you wish to stay to participate, you will be asked to complete a consent form. You will then fill out a questionnaire with questions about your experiences with CBL during the initial period of your studies. The questionnaire will take approximately 20 minutes to complete.

You have the right to refuse to answer any of the questions that you do not want to answer. You should not feel pressured by your tutor or classmates to participate in the completion of the questionnaire if you do not wish to do so.

The research assistant will collect the completed questionnaires and place them in a sealed envelope. The envelope will be delivered to me immediately following the class. The questionnaires ask for your unique seven digit student identification number. With your consent, I will receive your final course grade

and scores on the California Critical Thinking Dispositions Inventory (which you completed in September) using your student identification number from the Faculty of Nursing. These will be stored in a locked cabinet separate from the other research data. When the data is analyzed, I will use a different code number to correlate questionnaire responses with final course grades and scores on the California Critical Thinking Dispositions Inventory. This will help me determine the factors that may contribute to students' adjustment to CBL

Discomforts or Risks:

I am not aware of any discomforts or risks that may be associated with this study. If you feel uncomfortable or upset at any time, you can stop completely. You may want to talk to the research assistant or you might want to contact the Research and Graduate Studies Office and speak with the Associate Dean, Dr. Christine Newburn-Cook. Her phone number is (780) 492-5929. An additional contact number outside of the Faculty of Nursing is the Health Research Ethics Board at (780) 492- 0303.

Costs:

There will be no costs to you if you participate in this study, other than your time to complete the questionnaire and/or participate in the focus group discussion. I will reimburse parking expenses.

Benefits:

You will be provided with refreshments following the completion of the questionnaire and during the focus group discussion. You may also find it helpful to talk about your initial experiences in a CBL course. The information that is collected may assist educators in program planning.

Statement of Confidentiality:

The information that you provide will be kept for at least five years after the study is completed and kept in a locked cabinet. Any research data collected about you during this study will not identify you by name, only a coded number that is different from your seven-digit U of A identification number will be used. Your name will never be used in any presentations or publication of the study results. The signed consent forms will be stored in a location away from the questionnaires. All information will be held private except when professional codes of ethics or legislation require reporting.

The information gathered for this study may be looked at again in the future to help us answer other study questions. If so, the ethics board will first review the study to ensure the information is used ethically.

Investigator: Judith A. Worrell, RN, BScN, MN Candidate
Phone: 780-436-645
E-mail: judy.worrell@ualberta.ca

Thesis Supervisor: Dr. Joanne Profetto-McGrath
Phone: 780-492-1597
E-mail: joanne.profetto-mcgrath@ualberta.ca

Thesis Supervisory Committee: Beverly Williams, Assistant Professor, Faculty of Nursing and Dr. Sharon Warren, Professor, Faculty of Rehabilitation

Additional Contacts: Dr. Christine Newburn-Cook, Associate Dean, Research and Graduate Studies, Faculty of Nursing
Health Research Ethics Board



Appendix E

Information Letter for Students: Focus Groups

Investigator: Judith A. Worrell
MN Candidate
Phone: 780-436-6454

Supervisor: Dr. J. Profetto-McGrath
Associate Professor, FON
780-492-1597

Dear Nursing Student:

I am Judy Worrell, a Master in Nursing student conducting a study to describe the experiences of first year nursing students during their initial exposure to context-based learning (CBL) and to identify some of the characteristics that contribute to their adjustment. I am conducting this study in partial fulfillment of the requirements for a Master in Nursing in the Teaching and Learning Stream.

In order to explore this topic, I wish to collect data that will be obtained (confidentially) from a group of students who are close to the end of their first CBL semester and taking Nursing 194. Data will be collected in two ways:

1. A questionnaire following a Nursing 194 class in the final week of November 2006.
2. Audio-taped focus group interviews with students to discuss their experiences with CBL and what students believe are some of the changes that have taken place as a result of their early experience in a CBL course.

Focus Group Procedure:

I will inform you of the focus group component of this study when I attend the class to explain the study. Using the class list, a selected number of students will be randomly chosen to receive an invitation to participate in a focus group interview and you will be asked to contact me by e-mail if you choose to participate and to indicate your preferred dates and times. I will then respond by e-mail to confirm the arrangements and your participation.

When you arrive for the focus group, I will explain the process and you will be asked to sign a consent form. Before the group discussion begins, I will remind the group that what is said needs to remain confidential and ask you to sign a confidentiality agreement. However, confidentiality is difficult to maintain with focus groups and I cannot guarantee that group members will keep what has said confidential. If there is something you do not wish to discuss, please do not feel any pressure to share it with the group. You can decide to withdraw from the focus group at any stage and you should not feel pressured by your tutor or classmates to participate if you do not wish to.

The focus group session will be audio-taped and there will be a research assistant observing the group discussion and taking notes. The focus group will take approximately 45-60 minutes. At the end of the focus group, the tape and observer notes will be collected and placed in a sealed envelope. I will keep these in a locked cabinet and securely maintained.

Discomforts or Risks:

I am not aware of any discomforts or risks that may be associated with this study. If you feel uncomfortable or upset at any time, you can stop completely. You may want to talk to the research assistant or you might want to contact the Research and Graduate Studies Office and speak with the Associate Dean, Dr. Christine Newburn-Cook. Her phone number is (780) 492-5929. An additional contact number outside of the Faculty of Nursing is the Health Research Ethics Board at (780) 492- 0303.

Costs:

There will be no costs to you if you participate in this study, other than your time to participate in the focus group discussion. I will reimburse parking expenses.

Benefits:

You will be provided with refreshments during the focus group discussion. You may also find it helpful to talk about your initial experiences in a CBL course. The information that is collected may assist educators in program planning.

Statement of Confidentiality:

The information that you provide will be kept for at least five years after the study is completed and kept in a locked cabinet. Any research data collected about you during this study will not identify you by name, only a coded number will be used. Your name will never be used in any presentations or publication of the study results.

On the audiotapes, your voice will be heard. These audiotapes will not be used for public presentation. Some dialogue may be included in publications, but all identifiers will be removed. Only members of the research team will have access to the tapes and any notes.

The signed consent forms will be stored in a location away from the questionnaires, the tape-recorded focus groups, and the typed transcripts. All information will be held private except when professional codes of ethics or legislation require reporting.

The information gathered for this study may be looked at again in the future to help us answer other study questions. If so, the ethics board will first review the study to ensure the information is used ethically.

Investigator: Judith A. Worrell, RN, BScN, MN Candidate
Phone: 780-436-645
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Thesis Supervisor: Dr. Joanne Profetto-McGrath
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Thesis Supervisory Committee: Beverly Williams, Assistant Professor, Faculty of Nursing and Dr. Sharon Warren, Professor, Faculty of Rehabilitation

Additional Contacts: Dr. Christine Newburn-Cook, Associate Dean, Research and Graduate Studies, Faculty of Nursing
Health Research Ethics Board



Appendix F

Consent Form for Participants: Questionnaires

Investigator: Judith A. Worrell
 MN Candidate
 Phone: 780-436-6454

Supervisor: Dr. J. Profetto-McGrath
 Associate Professor
 780-492-1597

	Yes	No
Do you understand that you have been asked to be in a research study?		
Have you read and received copy of the attached information letter?		
Do you understand the benefits and risks involved in taking part in this research study?		
Have you had an opportunity to ask questions and discuss the study?		
Do you understand that you are free to refuse to participate or withdraw from the study at any time? You do not have to give a reason and it will not affect your student-related activities.		
Has the issue of confidentiality been explained to you?		
Do you understand who will have access to your records/study records?		
Do you consent for release of the following information: your final grade for nursing 194, and the results of the California Critical Thinking Dispositions Inventory (which you completed in September)?		
Who explained this study to you? _____		

Signatures:

I agree to take part in this study: Yes No

I give permission for the researcher to keep the information I give indefinitely so it may be included in future research studies, provided the University Ethics committee approves the research. Yes No

Signature of Research Participant: _____ Date: _____

Printed Name: _____

Signature of Witness: _____

I believe the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator or Designee: _____ Date: _____



Appendix F

Consent Form for Participants: Focus Groups

Investigator: Judith A. Worrell
 MN Candidate
 Phone: 780-436-6454

Supervisor: Dr. J. Profetto-McGrath
 Associate Professor, FON
 780-492-1597

	Yes	No
Do you understand that you have been asked to be in a research study?		
Have you read and received copy of the attached information letter?		
Do you understand the benefits and risks involved in taking part in this research study?		
Have you had an opportunity to ask questions and discuss the study?		
Do you understand that you are free to refuse to participate or withdraw from the study at any time? You do not have to give a reason and it will not affect your student-related activities.		
Has the issue of confidentiality been explained to you?		
Do you understand who will have access to your study records?		
Who explained this study to you? _____		

Signatures:

I agree to take part in this study: Yes No

I give permission for the researcher to keep the information I give indefinitely so it may be included in future research studies, provided the University Ethics committee approves the research. Yes No

Signature of Research Participant: _____ Date: _____

Printed Name: _____

Signature of Witness: _____

I believe the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator or Designee: _____ Date: _____

Appendix G

Focus Group Interview Questions

1. Tell me about your understanding of CBL as an approach to teaching and learning.
2. How has your approach to teamwork changed since you started this course?
3. What is different about the way you communicate now compared to the way you communicated before you started this course?
4. What changes have you noticed in your self confidence since taking this course?
5. Tell me what it has been like for you in adjusting to CBL.
6. What factors (things or people) that have helped you adjust to CBL?
7. Is there anything else about this initial experience with CBL that you wish to share at this time?



Appendix H

Focus Group Invitation to Participate

You Are Invited!

Dear _____:

As you know from the Information Letter handed out in class, I am conducting a study to describe the experiences of first year nursing students during their initial exposure to context-based learning (CBL) and to identify some of the characteristics that contribute to their adjustment

As part of the research study, I will be conducting a number of audio-taped focus group interviews. These sessions will be held in the Clinical Sciences Building at a time convenient to you. Each group will include eight or nine students and the interview will take approximately 45-60 minutes.

You will be asked to discuss your experiences with CBL and what you believe are some of the changes that have taken place as a result of your early experience in a CBL course. I am not aware of any discomforts or risks associated with this study. You may find it helpful to talk about your initial experiences in a CBL course and the information that is collected may also assist educators in program planning. Refreshments will be provided and I will reimburse parking expenses.

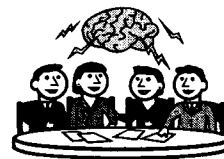
Here are some optional times - please let me know which of the following focus group interviews you would like to attend:

1. Focus Group 1 - Wed November 29 - 11:00 am to 12:00 noon OR 12:00 to 1:00 pm
2. Focus Group 2 - Fri December 1 - 11:00 am to 12:00 noon
3. Focus Group 3 - Mon, December 4 - 11:00 am to 12:00 noon OR 12:00 to 1:00 pm
4. I would be available to attend a focus group at a different time (specify day of week and time of day): _____

I would love to see you there. Please email me at judy.worrell@ualberta.ca and I will confirm the details and location of your focus group by email.

Sincerely,

Judith A. Worrell
MN Student



Appendix I

Confidentiality Agreement

Focus Group Participants

First Year Baccalaureate Nursing Students' Adjustment
to Context-Based Learning

As a participant in the focus group interview conducted as part of a research study by Judith A. Worrell, I understand that the data is to be used only for research and statistical purposes. During the focus group, certain information of a sensitive and confidential nature shall be disclosed to me. In consideration of this, I agree to hold all the information disclosed in the focus group interview as confidential and not to discuss the details of our discussions to third parties.

I agree to the above condition.

Signature

Date

Print Name

Appendix J

Focus Group Recruitment Poster

First Year Baccalaureate Nursing Students' Adjustment
to Context-Based Learning

Volunteers Needed: A study about adjustment to CBL

What?

- A focus group interview with 8 or 9 students to discuss your initial experiences in CBL

Who?

- First year U of A nursing students

When?

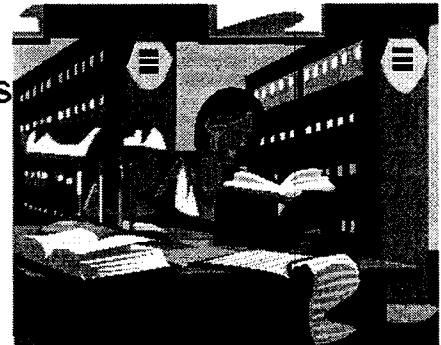
- In early December at volunteers convenience for 1 hour

Where?

- Clinical Sciences Building

How?

- Contact Judy Worrell, MN Student
judy.worrell@ualberta.ca



Poster will be printed on 8 ½ x 11" card stock paper. An attached envelope will be stocked with business cards containing the contact information for the students to take with them.

Appendix K

Open-Ended Question One

Matrix of Category Labels by Response/Rating and Theme

Theme	1 - Strongly disagree	2 - Disagree	3 - Neither agree nor disagree neutral	4 - Agree	5 - Strongly agree
Dissatisfied customer	1	1	4	2	
Getting comfortable with the process:		3	1	3	
Understanding CBL					
Knowing what is expected and what I need to learn		2	6	6	
Working in a group		2	3	7	1
Taking responsibility for self: SDL and personal growth			1	6	1