NURSING STUDENTS' PERCEPTIONS OF TEACHERS' COLLABORATIVE TEACHING STYLE AND SELF-EFFICACY FOR COLLABORATIVE LEARNING

by

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ABSTRACT

The primary purpose of this descriptive study was to examine the relationships between first-year and second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy for collaborative learning. Bandura's theory of self-efficacy was used as a framework to guide the study. Subjects were 174 nursing students, 49 first-year and 56 second-year students, enrolled in a humanistic-educative curriculum, and 69 second-year students enrolled in a traditional curriculum. Students completed the Student Principles of Adult Learning Scale (SPALS) to measure their perceptions of their teachers collaborative teaching style, and the Self-Efficacy for Collaborative Learning Questionnaire (SECL) to measure their self-efficacy for collaborative learning. Eight teachers from the humanistic-educative curriculum, completed the Teacher Principles of Adult Learning Scale (TPALS) Questionnaire to measure their perceptions of their collaborative teaching style. Nursing students' perceptions of teachers collaborative teaching style were positively related to their self-efficacy for collaborative learning ($r = .28$, $p < .01$). All students reported high self-efficacy, regardless of their year in the program, or the curriculum in which they were enrolled. Teachers' perceptions of their collaborative teaching style were significantly greater than students' perceptions of teachers' collaborative teaching style ($t = 6.0$, $p = .000$). Second-year students enrolled in the humanistic-educative curriculum perceived their teachers to be significantly more collaborative in teaching style than did second-year students in the traditional curriculum ($t = 4.6$, $p = .000$). The implications of the findings are primarily related to nursing education. Teachers need to recognize that they are a source of efficacy information for students and that their own behaviors may influence students' perceptions.

DEDICATION

To my father, Jeremiah Bonia, who enriched my life.

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CHAPTER 1

INTRODUCTION

In this chapter, background for the study is provided, and its significance is described. The need for the study is explained and the study purpose is presented.

Need for the Study

"Collaborative learning" is an educational approach involving joint intellectual effort by students or students and teachers together. It holds great promise for enhancing student learning and adding vitality to education (Smith & MacGregor, 1991). The definition of collaboration most often used in the nursing literature is " to work together, especially in a joint intellectual effort" (Baggs & Schmitt, 1988; Evans, 1994; Sheer, 1996). During the collaborative process, the successful achievements of one person arouse the intellectual passions and enthusiasm of others. Often, a fact expressed by one individual can become a common intellectual possession instead of fading away in isolation (Johnson, Johnson, & Smith, 1991).

The traditional nursing curriculum is based on the Tylerian model of the 1950's that reigned without competition for 35 years. The Tylerian model supported submissiveness, obedience, and the "banking model" of education (Bevis & Watson, 1989). Freire (1987,1993) described the "banking model" as one in which faculty deposit information in student receptacles. He suggested that real teaching is the ability to dialogue with students in a mode of reciprocity (1987). There are several limitations to the Tylerian approach. One is the need to develop behavioral objectives for all planned learning experiences. A second is "the rigidity and narrowness of the model's conceptualization of behavioral objectives" (Bevis & Watson, 1989, p.30). Behavioral objectives reflect the faculty's perception of what is important and may ignore the students' values and interests. Such objectives are out of step with transformative education and nursing as a human science. As a result, in the late 1980's " a curriculum revolution" began and nursing education curricula began shifting from the behavioral objective to a more collaborative approach inherent in the humanistic-educative paradigm (O'Conner, 1986). Many educators moved away from the banking concept toward an

empowerment model in which students learn to acquire and analyse information collaboratively.

Nursing education curricula based on this open ended, educative-humanistic model integrate a collaborative approach to teaching and learning wherein students work in partnership with one another and with the teacher. Such teacher-student partnerships develop the mind of individual students through intimate give and take (deTornyay, 1990). Student learning experiences are therefore enhanced. The collaborative approach lays down the burden of traditional models for teacher control (Allen, 1990). Instead, the teacher is used as a resource and the student is encouraged to ask questions and collaborate with the teacher and other colleagues. Flexibility and recognition of individual differences in how and what one learns are valued. Nurse educators who teach in humanistic-educative curricula must use a teaching style that is congruent with a collaborative approach. Being more accustomed to a teacher-centered model, this approach to teaching denotes a considerable deviation from contemporary practices for many nurse educators. In implementing a collaborative approach, they must consider ways of increasing students' self-efficacy for collaborative learning, so students may learn to value and use such approaches in their learning.

This change in approach to teaching presents a significant challenge for nurse educators who apply the humanistic-educative curriculum in their teaching. Although experts in the nursing field agree that a collaborative approach is effective, collaborative teaching-learning in nursing education has not been adequately explored. The purpose of this study, therefore, is to explore the relationship between teachers' collaborative teaching style and nursing students' self-efficacy in using collaboration as a style of learning.

Elements of Collaboration

In order to implement the humanistic-educative approach in a collaborative teaching-learning environment one must understand the elements of a collaborative relationship. Such a relationship is an evolving one in which a bond or synergistic alliance is present and participants are trusted and respected for the work and perspectives they

contribute to the learning experience. The contributions of each participant are maximized as individuals are encouraged to share their knowledge, skills, and abilities with other group members (Keenan, 1982; Sheer, 1996; Weiss & Davis, 1985). In a collaborative relationship, all members have power and are satisfied with their level of power. They hear the same music and dance in step to this music (Coeling & Wilcox, 1994). Experts agree that a collaborative approach to teaching-learning is integral to effective student learning wherein the student is supported in an environment of trust and mutual respect (Allen, 1990; Bevis & Murray, 1990; Bevis & Watson, 1989; Reilly & Oermann, 1992; Sellers & Haag, 1992). To this end, teachers are experimenting with approaches that respect the capabilities that learners bring to the teaching-learning situation, capitalizing on student strengths and empowering them.

Bevis and Murray (1990) defined curriculum in the educative-humanistic paradigm as "the interactions and transactions between and among teachers and students with the intent that learning take place" (p.326). In this paradigm, the environment is interactive and students are actively involved in the learning experiences. It is one which supports the process of learning and is dependent on a caring relationship between teacher and student. Caring requires cooperation and collaboration among those involved in the teaching-learning endeavour and promotes equity among them (Reilly & Oermann, 1992). High quality student-faculty interactions are paramount in equity education and are structured so that the student, and not the educator, is the centre of the of the educational process. The process is humanized so that egalitarian interactions can occur. These interactions are based on mutual respect rather than power and oppression. This approach in student-faculty relationships liberates students so that they can develop self-respect, value the contributions of others, and focus on scholarship (Sellers & Haag, 1992).

Theoretical Framework

Self-efficacy is a belief or measure of confidence that a person possesses for the performance of a skill or task (Bandura, 1977, 1993). It determines an individual's decision to engage in a behavior and the amount of effort and persistence to put forth. Efficacy expectations are beliefs that one can successfully perform behaviors to achieve

the expected outcomes (Bandura, 1977, 1993). Teachers' methods of instruction have been found to influence students' self-efficacy to achieve in fields other than nursing (Schunk, 1984).

Bandura's (1977) theory of self-efficacy was adopted as the theoretical framework for the study. Efficacy expectations are derived from four sources of efficacy information influencing self-efficacy perceptions of individuals: (a) performance accomplishments, personal mastery experiences, have the most influence on self-efficacy expectations; (b) vicarious observation, seeing others model the behaviour, leaves one with the expectation that the activity can be performed without adverse consequences; (c) verbal persuasion, convincing others that they have the ability to perform a behaviour by others telling them they can do it; and (d) emotional arousal or physiological state, the degree of tension individuals experience related to their confidence level for performance in a given situation.

In several investigations, self-efficacy has been positively related to student achievement in education (Barling & Snipelisky, 1983; Pintrich & DeGroot, 1990; Schunk, 1981, 1984; Thomas, Iventosch & Rohwer, 1987). It is not known whether those findings are generalizable to nursing students' self-efficacy for collaborative learning. Bandura's (1977) self-efficacy theory needs to be further tested in a population of nursing students before it is used as the theoretical basis for collaborative teaching-learning approaches in this discipline.

Although a collaborative approach to teaching and learning is integral to the implementation of the humanistic-educative curriculum, research is lacking on the effective implementation of this approach. In this investigation, two settings were used to study the collaborative teaching-learning approach while applying Bandura's self-efficacy theory. In the first setting, an interactive approach to teaching-learning was supported in a humanistic-educative curriculum. In the second setting, a traditional approach to teaching-learning was employed.

Purpose of the Study

The purpose of this study was to test the following aspects of Bandura's self-

efficacy theory: performance accomplishments, vicarious observation, and verbal persuasion. Those aspects were tested by (a) examining the relationship between nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style, (b) comparing first-year nursing students' self-efficacy for collaborative learning to second-year nursing students where both groups were enrolled in the same collaborative program, and (c) comparing self-efficacy of second-year nursing students enrolled in a collaborative program to that of second-year nursing students enrolled in a traditional nursing program. The relationship between teachers' perceptions of their collaborative teaching style and students' perceptions of teachers' collaborative teaching style was also examined.

This report is divided into four remaining chapters. In chapter two, the literature related to collaboration is examined, Bandura's theory of self-efficacy is presented, and the research related to self-efficacy and academic performance is reviewed. The research design, sample, instrumentation, and data collection procedures are described in chapter three. In the fourth chapter, the results of the data analyses are presented. Discussion of the results and recommendations for continued investigation comprise chapter five. The report closes with a summary and a conclusion.

CHAPTER 2

THEORETICAL FRAMEWORK, LITERATURE REVIEW, DEFINITION OF TERMS, RESEARCH HYPOTHESES AND RESEARCH ASSUMPTIONS

Chapter 2 is comprised of two sections. In the first section, the theoretical framework used in this study is presented and the literature review relevant to the theory is reviewed. The literature review includes: self-efficacy and academic achievement, self-efficacy and nursing education, and self-efficacy and collaboration. The second section includes a description of collaboration, the concept of interest in this study. The literature review relevant to this concept includes: the definition of collaboration, the collaborative relationship, collaboration in general education, and collaboration in nursing education. The nursing education review will be further subdivided to include collaborative approaches to nursing student education, and collaborative approaches to education in nursing practice. The above areas collectively provided the theoretical foundation for the study. The literature reflects the period from 1977-1998. The data bases utilized to explore the relevant research were the Cumulative Index of Nursing and Allied Health Literature (CINAHL), the Educational Resource Index Curriculum (ERIC), and MEDLINE. Self-efficacy publications held in the Nursing Research Unit at the School of Nursing, The University of Western Ontario, were also examined. Data-based and expository literature were explored. The definition of terms, research hypotheses and questions, followed by the research assumptions, are presented at the end of the chapter.

Theoretical Framework: Self-Efficacy Theory

Self-efficacy is derived from Bandura's (1977) social cognitive theory. Within this theory, psychological functioning was explained by using the term "triadic reciprocal causation" to describe the result of the interactions among behavior, cognitive factors, and environmental events. Within the dynamic of triadic reciprocal causation, cognitive processes significantly influence the development of behavior. Bandura (1977, 1993) views self-efficacy as a cognitive process in which individuals evaluate their capabilities to cope with different realities and execute required behaviors.

Self-efficacy is based on two types of expectations: outcome and efficacy

expectations (Bandura, 1977). The difference between self-efficacy expectations and outcome expectations is depicted diagrammatically in Figure 1.

Efficacy expectations are beliefs that one can successfully perform behaviors to achieve the expected outcomes; whereas, outcome expectations are defined as one's estimate that a given behaviour will lead to a particular outcome (Bandura, 1977, 1993). Outcome and efficacy expectations are differentiated, because individuals can believe that a particular course of action will produce certain outcomes; but if they entertain serious doubts about whether they can perform the necessary activities, such information does not influence their behavior.

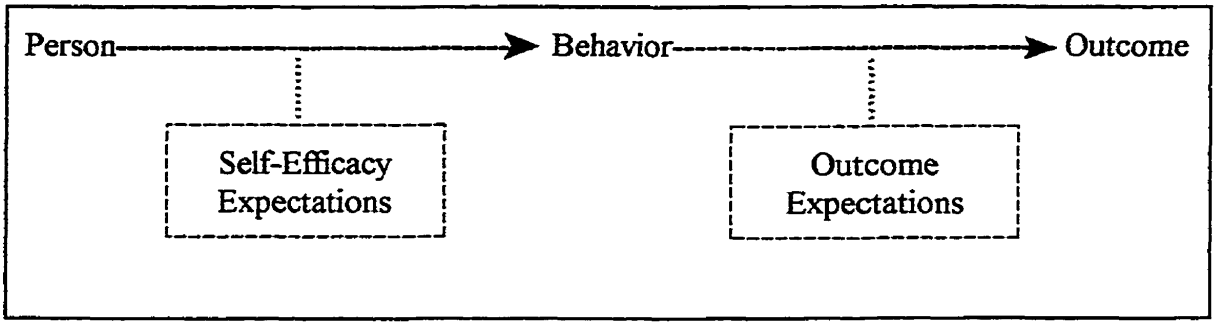

Figure 1. Diagrammatic Representation of the difference between Self-Efficacy Expectations and Outcome Expectations (Bandura, 1977, p.193).

Self-efficacy expectations are the aspects of Bandura's self-efficacy theory that are of interest in this study. Efficacy expectations are derived from four sources of efficacy information influencing self efficacy perceptions of individuals: (a) performance accomplishments, (b) vicarious observation, (c) verbal persuasion, and (d) emotional arousal (Bandura, 1977).

Performance accomplishments. Performance accomplishments are believed to be the most influential source of information, because they lead to enhanced self-efficacy expectations through mastery of experiences (Bandura, 1977). Performance accomplishment is usually achieved by participation in and repeated exposure to activities, or through self-instructed performance (Bandura, 1977, 1988). Higher degrees of success,

particularly early in learning, result in higher self-efficacy. On the other hand, failures undermine self-efficacy, especially if the failure occurs before a sense of efficacy is established. Following failure, a person is able to strengthen perceived self-efficacy if the failure is overcome and success is obtained in another attempt. Once strong self-efficacy expectations have been established, the negative impact of occasional failures on self-perceptions of efficacy is reduced (Bandura, 1977, 1988).

Vicarious experience. Self-efficacy appraisals are partly influenced by vicarious experiences (Bandura, 1977). Self-efficacy may be strengthened vicariously as the individual sees others model the behavior successfully. This leaves one with the expectation that the activity can be performed without adverse consequences. The more similar and credible the model is to the learner, the more confident the learner will be in the perception that the task is attainable (Bandura, 1988). Vicarious experience can therefore increase or decrease one's self-efficacy expectations through social comparison.

Verbal persuasion. A third source of information may be provided by verbal persuasion. People who are persuaded verbally that they possess the capabilities to master given tasks are likely to mobilize greater sustained effort than if they harbor self-doubts. It encourages individuals to believe that they have the ability to perform a behavior. Similar to vicariously-induced efficacy information, self-appraisals based on the opinions of others are weaker than those arising from one's own accomplishments, because they do not provide an authentic experiential base (Bandura, 1977). However, the impact of persuader opinions on self-efficacy is strengthened by the recipient's confidence in, and similarity to the persuader, as well as credibility of the persuader (Bandura, 1986).

Physiological Arousal. A final source of information about self-efficacy is the physiological state that individuals experience related to their confidence level for performance in a given situation. Individuals usually interpret high levels of physiological arousal and anxiety as signs of vulnerability or failure. Conversely, they tend to associate low states of anxiety to situations in which they are self-efficacious. Accordingly, these internal cues may influence their perceptions of the situation and their related performance abilities (Bandura, 1977). A positive interpretation of physiological symptoms enhances

self-efficacy while a despairing interpretation lowers it. Therefore, efficacy information evoked by physiological arousal is an important determinant in judging human capabilities. Internal messages of arousal such as rapid heart rate and sweating may undermine self-efficacy and impair performance (Bandura, 1977).

Magnitude, generality, and strength. Bandura (1977) conceptualizes self-efficacy as a multi-dimensional phenomenon with three aspects considered to be variable in efficacy expectations: magnitude, generality, and strength. Magnitude determines the level of difficulty of a task that will be attempted. An experience may generalize efficacy expectations to another situation. This is referred to as generality. Self-efficacy may also be enhanced through previous experience with difficult tasks in other situations (Bandura, 1977). However, prior self-efficacy is not the only way to gain performance accomplishments. Strength is the degree of confidence an individual possesses in performing a certain behavior. Self-efficacy can influence an individual's decision to engage in a behavior and the amount of effort and persistence to put forth. Students with a low sense of self-efficacy for acquiring cognitive skills may attempt to avoid tasks, whereas those who judge themselves more self-efficacious may participate more eagerly. When facing difficulties, students who have a high sense of self-efficacy for learning expend greater effort and persist longer than those who doubt their capabilities (Schunk, 1990).

Review of the Self-Efficacy Literature

Self-efficacy theory has been used by researchers as a model to examine studies in many domains. It has been demonstrated to be predictive of health behaviors (Bandura, 1986; O'Leary, 1985); cognitive development and functioning (Bandura, 1993); and academic achievement (Zimmerman, 1995). The theory has been found to be useful in predicting recovering cardiac patients' self-efficacy expectations for activity level (Gortner & Jenkins, 1990), smoking abstinence versus relapse (Wojcik, 1988), and outcomes of chronic pain treatment (Kores, Murphy, Rosenthal, Elias & North, 1990). The concept has also been applied to weight loss (Chamblis & Murray, 1979), management of childbirth pain (Manning & Wright, 1983), and management of self-care by diabetic individuals

(Hurley & Shea, 1992).

The self-efficacy literature examined in this review includes self-efficacy and academic achievement. Criteria used to determine inclusion in this review were: (a) self-efficacy and general academic achievement, and (b) self-efficacy and academic achievement in nursing education. A summary of the gaps in the literature are presented at the end of the chapter.

Self-Efficacy and Academic Achievement

A major belief of Bandura's (1977) self-efficacy theory is that self-efficacy influences performance. Researchers who have conducted studies related to student education have found positive relationships between self-efficacy expectations and student achievement (Zimmerman, 1995). The explanation for this relationship is that when students face difficulties, those with high self-efficacy perceptions will expend greater effort and persist longer than those who doubt their capabilities (Bandura, 1993; Schunk, 1990).

Schunk (1981, 1984, 1985) used the concept of self-efficacy in several studies related to academic achievement. Schunk (1981) studied the relationship between the influence of self-efficacy and arithmetic achievement in a sample of 56 low-achieving children whose average age was nine years. The children, drawn from five elementary schools, participated in a division competency-development program and received either modeling or didactic instruction. Both cognitive modeling and didactic forms of arithmetic instruction led to significant increases in self-efficacy, skill, and task persistence, but significantly higher skill was associated with modeling. This difference was found despite many similarities between the two treatments. The major difference between the two treatments was that children in the modeling condition observed division strategies modeled with different exemplars during periods of instruction and feedback. Path analysis of causality revealed that the instructional treatments influenced children's arithmetic skills directly as well as indirectly, through their perceived efficacy beliefs. Students' perceived self-efficacy influenced their skill acquisition both directly and indirectly by heightening their persistence. The direct effect indicates that perceived self-efficacy influences

students' learning through cognitive as well as motivational processes. Further research is needed to investigate how children weigh and integrate efficacy-relevant information in forming efficacy judgments.

Schunk (1984,1985), in two review articles, addressed the idea that perceived self-efficacy is an important variable in understanding achievement behavior. Schunk (1984) indicated that educational practices differ in the type of information they convey. Even when students acquire efficacy information from self-performances, subsequent efficacy judgments are not mere reflections of those performances. In the context of competency development, students begin to develop a sense of efficacy as they work at a task and experience some success. Some educational practices may validate this sense of efficacy by clearly conveying to students that they are becoming more capable, which in turn, may sustain task motivation and lead to further increases in self-efficacy and skills. Other educational practices may offer ambiguous information about students' capabilities, or convey to the students that they are not skillful. In the latter situations, increases in self-efficacy and skills should be lower than those resulting from efficacy-validating practices. In this way, educational practices constitute an important contextual influence on students' precepts of efficacy. Schunk (1985) indicated that students enter classroom activities with various attitudes and prior experiences, which affect their initial sense of self-efficacy for learning. During task engagement, students may assess self-efficacy by utilizing cues made cognitively salient by educational practices and which convey information about capability to acquire knowledge and skills, such as performance outcomes and perceived model similarity. In turn, students' increased learning self-efficacy enhances their motivation for learning, or motivation to acquire knowledge and skills. How students weigh and combine efficacy information from diverse sources needs to be explored. Further educational research is necessary to promote understanding of the interrelationship of educational practices, self-efficacy, and achievement (Schunk, 1985).

A study was conducted to investigate the influence of goal setting and progress feedback on self-efficacy and writing achievement (Schunk & Swartz, 1993). Participants included 33 fourth-graders from two classes in one elementary school who were

academically gifted in language arts. A pre-test, post-test, and maintenance test were completed. Children were randomly assigned to one of three experimental conditions: paragraph goal, strategy goal, and strategy goal plus feedback. The instructional program extended over a 20 day period, with 5 sessions devoted to each of 4 areas (descriptive paragraphs, informative paragraphs, narrative story, and narrative descriptive paragraphs). Each student assigned to the strategy goal plus feedback condition received feedback 3-4 times during each session. The feedback conveyed that the children were making progress toward their goal of learning to use the strategy to write paragraphs. In the other two conditions, the children were given instructions at the start of the first five sessions and the instructions to each group were different. Progress feedback was not given. Children in the strategy goal plus feedback group judged their self-efficacy higher ($p < .05$), and scored higher on skill ($p < .05$), than did the children in the paragraph goal group, and outperformed the children in the strategy goal only group ($p < .05$). The group also scored higher than children in other conditions ($p < .05$) on the post-test, and maintenance test on strategy use. Providing gifted students with a goal of learning a writing strategy and feedback on their progress raised achievement outcomes and transfer. The findings are important given that, compared with average achievers, gifted students are more likely to generate strategies on their own. Self-efficacy was found to be influenced by performance, supporting Bandura's self-efficacy theory. Further research is needed to compare gifted students' goal orientations with those of students in regular classes.

In a replication study assessing the determinants of children's academic self-efficacy beliefs, performance accomplishments with feedback was a more effective determinant of efficacy and response outcome expectations than modeling (Barling & Snipelisky, 1983). A sample of 358 schoolchildren in grades 2-7, whose average age was 10 years, completed a Children's Scholastic Self-Efficacy and Intelligence Achievement Responsibility Scales while their mean grade score was obtained. Teachers completed the Teacher Self-Efficacy Scale. Age and locus of control (LOC) attributional style mediated the influence of performance accomplishments on efficacy and outcome expectations while attributional style interacted with modeling in predicting efficacy expectations. Multiple

regression analysis showed that Performance Accomplishments x Age interaction explained a significant proportion of the variance in efficacy expectations (31.1%), while the Performance Accomplishments x LOC interaction contributed 4.9% of the efficacy expectation variance. Only the Modeling x LOC attribution explained a significant proportion of the variance in efficacy expectations (2.94 %). The results are supportive of self-efficacy predictions, that performance accomplishments would be the most influential source of self-efficacy information. In this study, the teachers were used as a source of modeling influence. It may have been beneficial to assess the role of peers as a source of potential model influence.

Lent, Brown, and Larkin (1984, 1987) examined self-efficacy beliefs in relation to students' persistence and academic success in pursuing a major in college. A study involving 42 science and engineering students, both male and female, revealed that higher grades and greater persistence in science and engineering were found in students who had a strong self-efficacy for technical studies than those students with low self-efficacy (1984). The subjects completed a pre-test, post-test, and time-lapse test which dealt with feelings of self-efficacy, career persistence, aptitude, and differences in efficacy between male and female subjects. During a one-year follow up, students with a strong belief in their ability displayed greater persistence and achieved significantly higher grades in science and engineering courses than those with low confidence. Dependent variables were the cumulated grades after one year in science or technical course work, and percentage of students who completed the subsequent academic quarters. Only 50 % of students with low ratings of self-efficacy persisted in the selected college major; whereas 100% of the students with high ratings were enrolled for all four quarters. In this study, the self-efficacy scores were positively correlated with the mathematics aptitude test and high-school achievement. Further research is needed to examine the relationship between career outcomes and both efficacy and academic indices of ability.

Lent, Brown, and Larkin (1987) suggested that self-efficacy may be especially useful in predicting academic achievement and persistence behavior. In a sample of 105 freshman and sophomore undergraduates who were considering science and engineering

careers, measures of self-efficacy, career indecision, and self-esteem were performed. Self-efficacy scales had reported values for internal consistency reliability, with a Cronbach's alpha of .89. Multiple regression analysis was used to determine the different contribution of the three theoretical variables on academic performance, persistence, range of career options, and career indecision. Self-efficacy showed the most potential in predicting academic achievement and persistence behavior than did career indecision and self-esteem. Students who rated high in self-efficacy, were less likely to report negative consequences of their choice of subject major and more likely to report positive consequences.

In a study conducted to explore the sources of information that students employ in appraising their mathematics self-efficacy, students cited personal performance experiences as the most common, and the most influential basis of their efficacy beliefs (Lent, Brown, Gover & Nijjer, 1996). Participants were 103 students, whose average age was 19.75 years, enrolled in introductory psychology courses at a university. Self-efficacy was measured by the Self-Efficacy-College Courses Scale. Following completion of the scale, participants were asked to write down, and then rank the factors that they considered in making their confidence ratings, in order of importance. Personal performance emerged as the most frequently listed basis for self-efficacy beliefs, accounting for 58 % of all classifiable responses. Nearly all participants listed at least one instance of personal performance experience. Vicarious learning and psychological arousal were cited less often by 37 % and 9 % of participants respectively. Participants also rated personal performance (63 %) as having the most influence on their academic self-efficacy judgments. The thought-listing procedure used did not allow the authors to clearly distinguish between the type of information that students used to construct their efficacy beliefs and the decision rules that they employed to weigh and integrate various types of efficacy information. Also, subjects may not have been capable of recounting faithfully the mental processes affecting their own judgments and behavior.

A study was designed to investigate if perceived self-efficacy will, by way of a person's feelings about his or her competence, contribute to level of performance (Vrugt,

1994). The sample consisted of 206 university students enrolled in a first-year psychology course. Perceived self-efficacy was measured by the Self-Efficacy-Magnitude (SEM) questionnaire. Six questions were posed to measure the participants' feelings about their study skills and results. Intelligence was measured in order to control for actual abilities. Perceived self-efficacy contributed to the positive feelings of students regarding their skills ($p < .001$), and these feelings also influenced their course grades ($p < .001$). Results are consistent with the literature that perceived self-efficacy influences people's affective reactions or feelings regarding their own skills, which in turn, influence self-efficacy achievement. In the weeks between the SEM and examinations, other factors may have operated which influenced subjects' feelings and course grades. Also, because subjects had just begun their academic study, their judgments of their capabilities may have been inaccurate and unstable.

The self-efficacy literature lends considerable support to the positive relationship between self-efficacy and achievement. When facing difficulties, students who have a high sense of efficacy for learning expend greater effort and persist longer than those who doubt their capabilities (Schunk, 1990). Individuals who demonstrate strong self-efficacy are more likely to undertake challenging tasks, and perform more successfully than those with lower self-efficacy beliefs (Bandura, 1993). Bandura's (1977) theory of self-efficacy is supported, in how efficacy information is derived, and how it influences self-efficacy expectations. For example, performance accomplishments with feedback were shown to be a more effective determinant of efficacy and response outcome expectations (Barling & Snipelisky, 1983), than modeling. Modeling as a form of instruction was shown to increase students' self-efficacy beliefs (Schunk, 1981). The literature lends credibility to the fact that instructional practices may influence self-efficacy expectations. However, further educational research is necessary to promote understanding of the interrelationship of educational practices, self-efficacy, and achievement.

Self-Efficacy and Collaborative Teaching and Learning in Nursing Education

While collaboration has been recognised in recent years as a valued approach to student learning in nursing education (Bevis, & Watson, 1989), only one study was found

involving self-efficacy and collaborative teaching-learning. This study consisted of a convenience sample of 63 third-year nursing students enrolled in a baccalaureate nursing program where a collaborative practice model was used in providing family nursing care. Students' self-efficacy for collaborative family nursing practice skills was increased (Ford-Gilboe, Laschinger, Laforet-Fliesser, Ward-Griffin, & Foran, 1997). A pre-test-post-test design was used to assess the impact of a 13-week family nursing clinical practicum on the perceived self-efficacy of two groups of nursing students in three areas: family visiting, home visiting, and collaborative practice. Students completed the Family Nursing Self-Efficacy Questionnaire (FNSE) at the beginning of the academic year, four, and eight months later to coincide with the timing of the practicum for each group. A two-factor, repeated measures analysis of variance (ANOVA) revealed a significant Group x Time-effect. Students' self-efficacy differed significantly by group at time two only, supporting the positive effects of the clinical practicum on students' self-efficacy. Consistent with Bandura's (1977, 1986) theory, students rated the performance of family nursing skills in a clinical setting as the most important source of efficacy information. Exposure to the sources of efficacy information present in a practicum learning experience was considered to have a positive effect on the students' self-efficacy. In the study, the students' performance of collaborative behaviors was not measured, only their perceived self-efficacy of those behaviors.

Although research is lacking on the study of self-efficacy and collaborative teaching approaches in nursing education, self-efficacy and nursing education in other domains has been researched. The literature provides support for a direct relationship between self-efficacy and academic achievement.

Self-Efficacy and Nursing Education

Although support has been provided in the literature, of the effects of teaching strategies on the development of student self-efficacy, and the positive influence of self-efficacy on academic performance, only two studies were found which related to nursing students. Self-efficacy was found to be directly related to academic achievement in a sample of 134 first-year nursing students enrolled in a nursing theory course in a 2-year

community college program (Chacko & Huba, 1991). The relationships among language ability, reading ability, self-efficacy, and academic achievement were studied. Self-efficacy was measured by the self monitoring/learning strategy subscale of the Learning and Study Strategy Inventory (LASSI) modified by the researchers to improve validity. Academic achievement was measured by the final grades in the nursing theory course. Language ability, reading ability, and self-efficacy ($\underline{r} = .29$, $\underline{r} = .28$, $\underline{r} = .33$, $\underline{p} < .01$) respectively, had a direct effect an academic achievement. The study is limited by the use of self-report instruments to measure all the independent variables with the exception of reading ability, language ability, and math ability. Self-report measures may have reflected subjects' perceptions rather than their actual behaviors. Additionally, interpretations of causality cannot be made.

Further support for self-efficacy was found by Foran (1994) who recently tested aspects of Bandura's (1977) theory of self-efficacy, by examining the differential impact of two learning experiences, which contained different amounts of efficacy information. A two group pre-test, post-test design was used to study self-efficacy expectations and performance prior to, and following a module designed to develop helping relationships. Group A engaged in microcounselling tutorials and Group B engaged in independent study. All students completed the Helping Relationship Behavior Self-Efficacy Scale and responded to a videotape of a simulated client before and after the module. The videotaped responses were rated using Carkhuff's Communication Index (1969). Students also completed the Sources of Efficacy Information Scale at the end of the module and a demographic questionnaire.

Both teaching methodologies were effective in increasing student self-efficacy expectations and for improving actual performance of the skills. According to Bandura, learning takes place in situations which include sufficient sources of the efficacy information to increase learner self-efficacy. Although the microcounselling approach was thought to include more sources of self-efficacy information, it appeared that both learning experiences included sufficient sources of the efficacy information to increase self-efficacy and performance in a simulated situation. It was speculated that the performance and self-

efficacy expectations of the microcounselling group would exceed those of the independent learning group. This hypothesis was not supported since both groups demonstrated considerable levels of self efficacy expectations and actual ability to perform these skills in a lab setting. It was recommended that further investigation be conducted to verify this finding since only a small portion of the independent study students submitted complete data sets. While self-efficacy and performance levels within each group increased, the groups did not differ on the amount of change at post-test. A positive correlation was found between self-efficacy expectations and performance but the relationship was not significant ($r = .28$, $p > .05$). Self-efficacy perceptions were significantly enhanced, supporting Bandura's theory that actual performance of the behavior was perceived to be the most important source of efficacy information for those students. Due to the use of a convenience sample, the generalizability of the findings is limited. The small number of completed data sets raises the possibility of Type 11 error.

A descriptive study was employed to determine if there was a difference in the self-efficacy scores of fourth-year baccalaureate nursing students before, and after a 12-week preceptored clinical experience (Goldenberg, Iwasiw & MacMaster, 1997). The researcher-designed student questionnaire requested students to rate their self-efficacy on each of 52 behaviors. The researcher-designed preceptor questionnaire requested preceptors to rate their self-efficacy in assisting students with each of the 52 behaviors, and on six specific items related to being a preceptor. Analysis, using paired t-tests, was performed on the scores of 23 students and 24 preceptors, who completed the pre-and-post tests. There was a significant increase in the post-test self-efficacy mean scores of students ($p < 0.01$) in all subscales. Preceptors' post-scores remained high, suggesting confidence in their role. Supporting Bandura's theory, four sources of efficacy information may have affected the students' self-efficacy. Generalizability of the results is limited due to the small non-probability convenience sample, where there was little opportunity to control for biases.

Review of the Collaboration Literature

Collaborative approaches to teaching and learning are not restricted to educational

institutions but are being used in clinical settings and have been well received in nursing. This is important because it indicates that the approach is not out of touch with clinical practice. Much has been written about the collaborative approach in the clinical setting in nursing education and also in the practice of nursing. However, research has been limited to these areas and little research has been done on the collaborative approach to nursing in the classroom setting.

In this section, collaboration will be reviewed as follows: (a) the concept of collaboration, (b) collaborative approaches in education, and (c) collaborative approaches in nursing education. Collaborative approaches in nursing education will include nursing student education and nursing practice education.

The Concept of Collaboration

The word, "collaborate", is derived from the Latin words "col", meaning "with" or "together", and " laborare", meaning "work". Collaboration has also been associated with words such as cooperation, coaction, mutualism, joint effort, and fusion (Chapman, 1992). Collaboration is utilized in places of business, in work teams, and as a strategy for conflict management (Quinn, Faerman, Thompson & McGrath, 1996).

The definition of collaboration most frequently found in the nursing literature is "to work together, especially in a joint intellectual effort" (Baggs & Schmitt, 1988; Evans, 1994; Sheer, 1996). Collaboration signifies an evolving relationship (Sheer, 1996), wherein exists a sharing of knowledge, values, responsibility, outcomes, and vision. Collaboration is frequently equated with a bond or partnership, characterized by mutual goals and commitment (Baggs, Ryan, Phelps, Richeson & Johnson, 1992; Henneman, Lee, & Cohen, 1995). In a collaborative relationship there is shared power and authority. Power is based on knowledge or expertise, as opposed to role or function.

Collaboration is promoted through excellent communication skills. Communication is an important antecedent to collaboration, as it serves as a vehicle for articulating the necessary elements to collaboration, such as respect, sharing, and trust (Henneman, Lee, & Cohen, 1995). Confirming, nonaggressive, and affirming behaviors are all necessary components to a collaborative communication style (Coeling & Wilcox,

1994). Collaborative interactions are characterized by a search for understanding, interest-based bargaining, and face-to-face discussions. The approach broadens the field of options, and results in respect, satisfaction with outcomes, and positive relationships over time.

While rules of collaboration provide for structure in collaborative practice, only the participants can make it work. Collaboration begins with mutual respect for each other's skills and expertise, a firm belief that participants are inherently good and trying their best (Alpert, Goldman, Kilroy & Pike, 1992). Mutual trust and respect, the basic building blocks of collaboration, may take a long time to develop. Mutual respect implies a recognition for the body of knowledge, talents, and skills of each participant (Henneman, Lee, & Cohen, 1995). Individuals involved with collaboration benefit from the supportive and nurturing environment it creates as feelings of collegiality, self-worth, and importance are reinforced.

Collaborative Teaching Style

The humanistic-educative approach to teaching, based on collaborative learning, is being adopted by some colleges. With this approach, knowledge is constructed, discovered, transformed, and extended by students. Faculty's effort is aimed at developing students' competencies and talents while students actively construct their own knowledge. Students view classmates and faculty as collaborators rather than as obstacles to their own academic and personal success (Johnson, Johnson, & Smith, 1991). In a collaborative learning classroom the instructor, therefore, does not assume a passive role. The traditional structure of the learning experience is replaced with a collaborative structure (Wiener, 1986). Learning in a cooperative way promotes higher achievement, more positive relationships, and better psychological adjustment, than individual or competitive learning (Cooper & Mueck, 1990; Johnson, & Johnson, 1994; Johnson et al, 1991). Learning activities focus on the students' understanding and application of the course material. Teachers who use collaborative learning approaches see themselves less as expert transmitters of knowledge and more as expert designers of intellectual experiences for students (Belenky, Clinchy, Goldburger, & Tarule, 1986).

The relationship between teaching style and learning style on student achievement was examined among non-traditional health professions in degree credit continuing education (Conti & Welborn, 1986). The sample consisted of 256 adult students in health profession classes in a college setting. Subjects, whose average age was 34 years, taught by a total of 18 instructors, attended evening classes. The teacher style of the 18 instructors was measured using the Principles of Adult Learning Scale (Conti, 1979). Student achievement was indicated by the final course grade. An analysis of covariance was employed to determine the relationship between teacher style and student achievement. Students' learning style was measured by the Canfield Learning Style Inventory. The strongest finding was that teaching style made a significant difference in student achievement. The greatest achievement was among the students of the teachers who practiced the collaborative approach. Students who expected to do either above average or superior preferred teachers who practiced a collaborative teaching approach which included consistently treating them with dignity and respect. Further research is needed about students' learning styles in order to improve the quality of teaching and learning. In the study, learning style was treated as a trait and many of the computed statistics indicated that student success was unrelated to a specific learning style. Situational factors such as the nature of the curriculum, and maturity of the students influence the degree to which the collaborative approach can be advantageously applied in adult education. The study addressed the broad field of adult education but did not explore the degree to which collaborativeness was appropriate for each part of this diverse field.

Clinical Nursing Education

Researchers examining the concept of collaboration in nursing education found value in collaborative teaching approaches in the clinical practicum experiences. An exploratory approach was used to examine third-year baccalaureate nursing students' perceptions of a shared assignment approach to learning (Warner, Ford-Gilboe, Laforet-Fliesser, Olson & Ward-Griffin, 1994). The sample consisted of 112 nursing students who were completing their clinical rotation in family nursing. Students selected a partner with whom to work from among the members of their clinical team. Effective team work

required collaboration and involved sharing goals and responsibilities. Data were collected using a teacher-developed questionnaire and students' clinical journals. Spradley's qualitative method of domain analysis was used to organize and interpret data from students' clinical journals. Students who made a greater number of joint home visits reported a higher degree of sharing, and perceived the teamwork experience more positively with respect to their learning and the quality of nursing care. The perception scores were examined separately for students in the first and second year of the study. For both groups of students, positive perceptions were significantly correlated with the degree of sharing of nursing activities ($r = -.42$, $p = .0001$, and $r = -.56$, $p = .0003$ respectively). The shared assignment method of clinical instruction was considered to be a desired educational strategy. In this study, students made few home visits together, and the degree to which they shared responsibility for nursing their assigned families was lower than the authors anticipated. Students may not have defined teamwork as "shared responsibility".

Further support was found for collaborative learning between peers in a study involving nursing students during a clinical experience (Iwasiw & Goldenberg, 1993). The non-probability convenience sample consisted of 50 second-year students in a four-year baccalaureate nursing program, randomly assigned to an experimental and control group. Students in the experimental group had opportunities to be both peer supervisors and peer supervisees. In the control group, the usual clinical teaching procedures were followed, including on occasion, a student-peer teaching experience. Data were collected from pre- and post-psychomotor and cognitive tests of a surgical dressing procedure and from a Clinical Teaching Preference Questionnaire (CTPQ). The experimental group had significantly higher cognitive improvement scores ($t = 1.67$; $p < 0.05$) and moderately higher psychomotor improvement scores. The hypothesis that students who were taught by peers will achieve significantly higher improvement scores than students taught by teachers alone was supported. Responses to the CTPQ showed that students rate their preference for peer teaching equal to or higher than instructor teaching. Students taught by peers achieved significantly higher scores than students taught by clinical teachers alone. A methodological limitation of the study was that all experimental subjects were

located in one hospital and all control subjects in another hospital. Also, one clinical instructor supervised the experimental subjects, and a different one the control subjects. In a future study environmental variables may be controlled by having both groups located in the same clinical unit.

Support for a collaborative approach was found when empowering strategies were implemented in a nursing practicum course of a baccalaureate program in Omaha (Hawks & Hromek, 1992). This clinical course, the final one in the program, was designed and developed using elements of empowerment strategies. Faculty with a person-centered approach to education were asked to participate in the practicum course. Such teachers encouraged students to think for themselves, and became involved in the process of learning with the students. Students completed 128 clinical hours and attended 161 one-hour seminars. Students, in their evaluations, reported that this approach promoted independence, decision-making, and integrated their classroom learning to the clinical area. In the descriptive article, it was suggested that empowering students through provision of a positive and interactive environment was supportive to critical thinking, caring, and enhanced learning. The study was limited to one nursing course in one nursing program; nonetheless, it adds to the literature on collaboration.

Clinical Teaching Associates (CTA) at a local health care agency and baccalaureate faculty at a Midwestern university designed a management course using a collaborative clinical teaching model (Weber, 1993). The course was developed to enhance students' clinical preparation and was precipitated by complaints from nurse managers that new graduates were unable to transfer management theory into practise. A clinical teaching associate (CTA), an experienced baccalaureate-prepared nurse employed by the agency, provided role modeling in collaborative teaching experiences with 24 baccalaureate students. Clinical Teaching Associates taught students to organize all their daily tasks and skills unique to that unit. Students, with assistance of the CTAs, wrote their learning objectives and took turns leading the two-hour weekly post-conference that focused on the application of theory in the clinical setting. Student evaluation of the CTA experience revealed that 87% of the students valued the close working relationship with

the CTA and felt more prepared for graduation. The model promoted a positive and meaningful clinical experience for the majority of students. Students suggested that their clinical judgments improved as they learned to coordinate care for a group of clients. They indicated that they would recommend the experience to other students. The small sample and the anecdotal evaluations preclude generalizability to other settings.

An innovative collaborative educational model on collaboration between the education and the service sectors was developed and implemented by McMaster University School of Nursing and the Nursing and Education Departments at Hamilton Psychiatric Hospital, Hamilton, Ontario (Kirkpatrick, Byrne, Martin, & Roth, 1990). An awareness of the difficulties in providing a positive learning environment prompted the development of this approach for the clinical supervision of undergraduate students. The basic premise of the model was the recognition that both practice and education are essential and equal contributors to nursing care and service. The front-line nursing staff were the clinical supervisors who were supported by clinical nurse specialists, the hospital educator and the university faculty member. Each term approximately six third-year nursing students were placed at Hamilton Psychiatric Hospital (HPH) for their first psychiatric nursing experience. For 12 hours per week, students participated as members of the multi-disciplinary team. The model provided students with variety and individual consideration in their choice of placement that could not have been possible when one faculty accompanied a group of students to a ward. The students' learning was strengthened through assistance in identifying personal values, learning how to collaborate and solve problems, and by encountering a positive attitude toward faculty and students. The clinical supervisors indicated that they felt rewarded by their professional self-development and their close relationship with students. Links between practice and education were enhanced resulting in improved information exchange. This article was limited to expository information.

A hospital-based clinical nurse specialist (CNS) and a university-based faculty member who shared a nursing student clinical group proposed to show that, through their collaborative efforts, they would promote a positive and effective learning experience for

the students (Shah & Pennypacker, 1992). The CNS was hired by the university for the semester on a per diem basis. Students reported that with a collaborative approach, they enjoyed learning different ways of performing skills, and having the freedom to choose a particular clinical style. The shared clinical rotation provided students with the advantage of merging theory with clinical practice. In addition, when students worked collaboratively with advanced practice nurses and nurse educators, an ideal setting for student learning was created. This article was limited by the anecdotal nature of the information.

In an expository article, Conn (1995) described teaching nursing research to advanced practice graduate students by involving them in nurse educators' and advanced practice nurses' collaborative research. The author suggested that when advanced practice nurses enact the research component of their nursing role, the value of nursing research is reinforced and the graduate student is provided with the opportunity to observe modeling of life-long learning. The open communication approach, that allows expression of divergent views and flexible decision making, is valuable to the learning process. Collaborative research facilitates the development of students' research skills while advancing knowledge within the discipline.

Collaboration in Nursing Practice Education

The Greater Cincinnati Orientation Instructors (GCOI), who worked as nursing instructors at area hospitals, initiated a collaborative experiment (Albunck & Scarberry, 1991). A committee of 11 GCOI members from 11 hospitals participated in the development of a common dysrhythmia course for several area hospitals. This was prompted by the inability of hospitals to use their staff to full potential when classes were only offered every six months. Through collaboration they proposed to offer the course each month, with the added benefit of also reducing duplication of effort by participating hospitals, thereby decreasing costs.

Throughout the collaborative process of developing the 3-day course, the committee members experienced an attitude of open communication, with a willingness to share knowledge and experience. A spirit of flexibility, cooperation, and compromise was present as the members meshed their individual goals, objectives, skills, and interests. As a

result of their collaborative effort, they shared their viewpoints and developed new perspectives in applying theories and concepts. The close peer interaction resulted in accomplishments superior to those that could have been accomplished by a single person. The collaborative program was successfully completed by 1500 individuals four years following its inception. Other advantages of the collaborative effort were the cost effectiveness of the course to the hospitals, the utilization of staff to their full potential, and the sharing of resources and open communication of the GCOI's among the area hospitals. In the expository article, a description was presented of the collaborative experiment among hospital staff development educators. The results add to the literature on collaboration.

A study was conducted with a non-random sample of 124 nursing staff development educators from hospitals within two New England states (Viau, 1994). In this study, investigative efforts were directed at exploring the extent to which adult learning principles guided the practice of staff development educators. Ninety-two percent of the participants in this nonrandom sample had a baccalaureate level of education or higher. The Principles of Adult Learning Scale (PALS) was used in the study to measure the degree of support of the principles of collaborative learning (Conti, 1979). PALS consists of 44 questions using a standardized summative Likert rating scale. The mean for PALS is 146 with a standard deviation of 20.

A mean score (147.41) on the PALS inventory provided support for the idea that educators practised a combination of teacher- and learner-centered behaviors, meeting institutional goals and maintaining standards of care. A reliability coefficient using Cronbach's Alpha ($r = 0.80$) supported the internal consistency of PALS to measure the educators' overall preference for teaching behavior in the hospital setting. The learner-centered process of instruction is one in which decision-making regarding curriculum issues is shared jointly by the learner and practitioner. Multiple regression analysis identified educational level as significant in explaining PALS scores for the sample. Interestingly, educators with a master's degree or doctorate scored significantly higher, indicating their preference for a learner-centered approach to program development.

Support was found for the introduction of students to the basic assumptions of adult education and how it related to their role as client educator and self-directed learner.

This exploratory study was limited by its nonrandom sample from a limited geographic area. The respondents were not differentiated by employment status or work schedule. The participants' years of experience could have had an impact on the results.

Collaborative approaches to education are purported to produce the following results: promoting a joint intellectual effort by students or students and teachers together (Smith, & MacGregor, 1991); facilitating effective partnerships between students, faculty and students, faculty, students and organizations; and maximizing contributions of each participant as individuals are encouraged to share their knowledge, skills, and abilities with other members of the group (Sheer, 1996). In a collaborative approach to teaching and learning, an environment of trust and mutual respect is created (Allen, 1990; Bevis & Murray, 1990; Bevis & Watson, 1989; Reilly & Oermann, 1992; Sellers & Haig, 1992). While studies have been conducted on collaborative learning in education, research is limited to a large body of expository literature, and only a few data-based studies. Additionally, little research has been conducted on collaborative teaching and learning approaches to nursing education in the classroom setting. Research is needed to examine students' self-efficacy in collaborative learning as it relates to how collaborative they perceive their teachers to be.

Relationship Between Self-Efficacy and Collaborative Learning

Collaborative approaches in nursing education are advocated and implemented, but, in truth, not much is known about what influences successful collaborative teaching and learning. It would be helpful to know if teacher behavior influences successful students' collaborative learning, because if it does, then those teacher behaviors need to be enhanced. Self-efficacy theory lends itself well to studying the collaborative learning approach to determine if teacher behaviors influence student behaviors.

Collaborative learning (CL) self-efficacy is a student's perceived ability to learn in a collaborative way. Performance accomplishment, vicarious experience, verbal persuasion, and psychological arousal affect the collaborative learning process. The

collaborative learning process is influenced by the teaching-learning environment which the teacher provides. In a collaborative teaching-learning environment nursing students may receive efficacy information and, in turn, those sources of efficacy information affect students' implementation of collaborative learning behaviors. The result may be expansion in students' thinking about learning collaboratively, and subsequently increased collaborative learning self-efficacy and performance. Alternately, students' self-efficacy may decrease depending on their cognitive appraisal of the sources of efficacy information, and hence their evaluation of their ability to execute the required behavior.

In a collaborative teaching (CT) environment, students derive self-precepts of efficacy from (a) teachers and students modeling collaborative behaviors (vicarious experience), (b) verbal persuasion provided by peers and teachers, (c) opportunities to enact or perform the collaborative behavior (performance accomplishments) and, (d) learning the physiological reactions associated with the performance of the behavior. As a result of these events, a collaborative learning (CL) environment provided by a collaborative teacher may lead to the development of collaborative learning self-efficacy. The hypothesized relationship among self-efficacy information, collaborative teaching and learning, and collaborative learning self-efficacy is illustrated in Figure 2.

Summary, Critique, and Gaps in the Literature

Self-efficacy theory has been well developed. Perceived self-efficacy has been shown to play a significant role in health behaviors. In addition, a substantial body of research lends support to the high predictive validity of self-efficacy in academic performance. This suggests that nursing students' self-perceptions of efficacy for collaborative learning may be an important predictor of actual collaborative learning ability. Although teachers' instructional style has been shown to have an impact on students' self-efficacy and academic achievement (Schunk, 1984; Bandura, 1993), researchers have not used the concept of self-efficacy to examine the relationship between teachers' collaborative teaching behavior and nursing students' learning behavior. This area needs to be explored. Therefore, the relationship between students' perceptions of collaborative teaching, and their self-efficacy expectations for learning collaboratively will

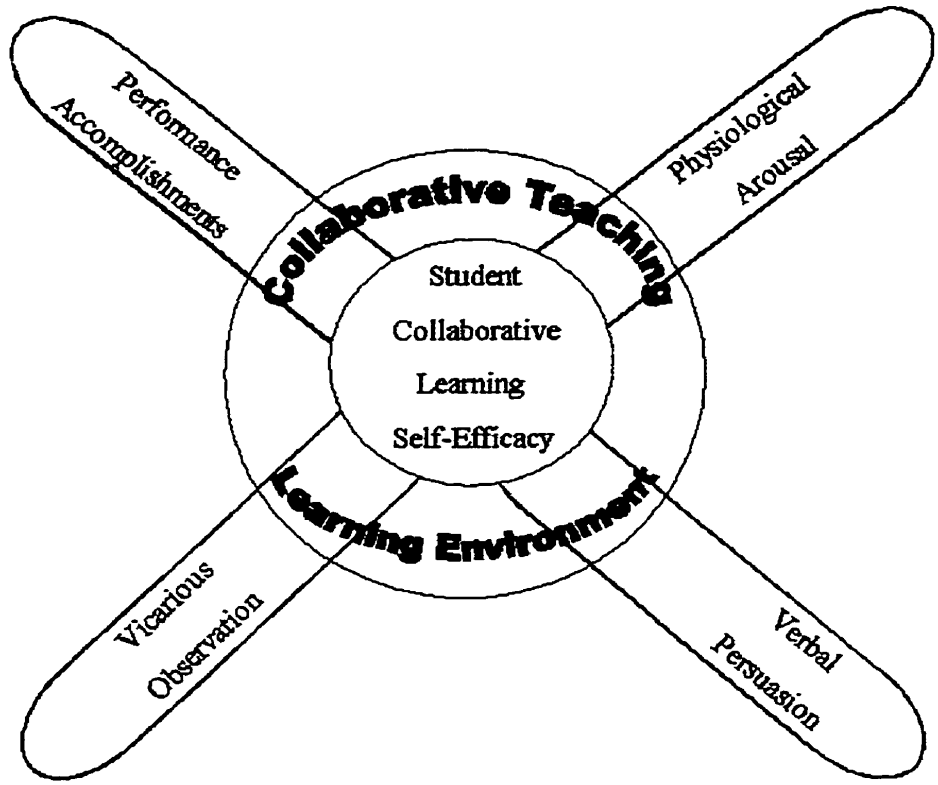

Figure 2. Hypothesized relationship among self-efficacy information, collaborative teaching and learning, and collaborative learning self-efficacy. The blades represent the four sources of efficacy information. The collaborative teacher promotes the efficacy information by creating and facilitating a collaborative teaching and learning environment. This results in student collaborative learning self-efficacy, and subsequently to collaborative learning performance.

be examined in this study.

While the use of collaborative approaches in nursing education has been well documented in the literature, research is limited to a large body of expository literature. Only a few data-based studies were found. Although there is general agreement among researchers about elements that constitute a collaborative teaching and learning approach, it cannot be concluded whether a collaborative approach to teaching will influence students to learn in a collaborative way.

A clear definition of collaboration was not readily apparent in most of the

literature, but the elements of collaboration were usually explicit. Although the collaborative teaching and learning process was described, conceptual clarity is required so that the approach can be measured and implemented.

Several investigations involving teacher style and academic achievement were found, but were limited to the non-nursing literature base. Literature was lacking on whether teacher style has an impact on student learning style. The absence of a clearly defined definition of collaboration, and of collaborative teaching and learning, and the influence of teacher behavior on student collaborative learning behavior, represent gaps in the literature. Since collaborative approaches are recommended as desired approaches to nursing education, then research on collaborative teaching and learning, for theoretical and practical reasons, is required. This study will address the gaps in the literature by examining if teacher behavior affects students' self-efficacy for collaborative learning.

Definition of Terms

The terms used in the research are defined as follows:

College Nursing Students: Students enrolled full-time in a three-year diploma nursing program at a Canadian College of Arts &Technology.

Self-Efficacy: A belief or measure of confidence that a person possessed for the performance of a skill or task. It determined an individual's decision to engage in a behavior and the amount of effort and persistence put forth. Students' self-efficacy for collaborative learning was measured by using the Self-Efficacy for Collaborative Learning Scale (Appendix A).

Collaborative Teaching: An educational approach that involved joint intellectual effort by students or students and teachers together (Smith, & MacGregor, 1991). With this approach, knowledge is constructed, discovered, transformed, and extended by students. Collaborative teachers using this approach see themselves less as expert transmitters of knowledge and more as expert designers of intellectual experiences for students (Belenky, Clinchy, Goldburger, & Tarule, 1986). Student-faculty interactions are structured so that the student, and not the educator, is the centre of the of the educational process. Egalitarian interactions are based on mutual respect rather than power and

oppression. This approach in student-faculty relationships liberates students so that they can develop self-respect, value the contributions of others, and focus on scholarship (Sellers & Haag, 1992). Perceptions of collaborative teaching style were measured using the Student Principles of Adult Learning Scale (Appendix B), and Teacher Principles of Adult Learning Scale (Appendix C).

Collaborative Learning: An educational approach that involved joint intellectual effort by students or students and teachers together (Smith, & MacGregor, 1991). In this approach, students view classmates and faculty as collaborators rather than as obstacles to their own academic and personal success (Johnson et al, 1991). The teacher is used as a resource and the student is encouraged to ask questions and collaborate with the teacher and other colleagues (Allen, 1990). Flexibility and recognition of individual differences in how and what one learns are valued. The interactions are the same as those described for collaborative teaching. Collaborative learning was measured by the Self-Efficacy for Collaborative Learning Scale (Appendix A).

Demographic Variables: Characteristics or attributes of the subjects including age, sex, educational level, marital status, and prior collaborative experiences. Student demographic variables were measured using the Student Demographic Questionnaire (Appendix D). Teacher demographic variables were measure by using the Teacher Demographic Questionnaire (Appendix E).

Research Hypotheses

1. Students' self-efficacy for using collaboration as a learning style will be positively related to their perceptions of their teachers' collaborative teaching style.
2. Second-year nursing students will have significantly higher self-efficacy scores for collaborative learning than first-year nursing students.
3. Second-year nursing students' self-efficacy for collaborative learning in a humanistic-educative curriculum will be significantly greater than that for second-year nursing students in a traditional nursing curriculum.

Research Questions

1. What is the relationship between first-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style?
2. What is the relationship between second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style?
3. What are the relationships between selected demographics (age, sex, educational level, previous collaborative learning experience) and students' self-efficacy?
4. What is the relationship between the teachers' perceptions of their collaborative teaching style, and the students' perceptions of teachers' collaborative teaching style?

Assumptions

The study was carried out under the following assumptions:

1. Subjects will participate fairly, honestly, and thoughtfully in the research study.
2. Students' perceptions of their teachers' collaborative teaching style can be measured by the Student Principles of Adult Learning Scale.
3. Students' collaborative learning self-efficacy can be measured by the Self-Efficacy for Collaborative Learning Questionnaire.
4. Teachers' perceptions of their collaborative teaching style can be measured by the Teacher Principles of Adult Learning Scale.
5. The teaching styles of faculty in the two colleges are congruent with the philosophical bases of the curricula.

Summary

In this chapter the theoretical framework used to guide the study was described. A review of the self-efficacy and collaboration literature then followed. The chapter concluded with a presentation of definitions of research terms, research hypotheses and questions, and assumptions. The study methodology is described in chapter 3.

CHAPTER 3

METHODOLOGY

The methodology of the study is described in this chapter. Descriptions of the design, setting, sample, instruments, data collection procedures, and data analysis processes are presented. The chapter will conclude with an outline of the measures used to protect human rights of the subjects.

Research Design

In this study, a descriptive correlational survey design was employed to examine the relationship between the students' perceptions of their teachers' collaborative teaching style and their perceived self-efficacy in using collaboration as a learning style. Students completed two instruments, one which measured their perceptions of their teachers' collaborative teaching style and the other which measured their self-efficacy for collaborative learning. The teachers also completed measures of their perceptions of their collaborative teaching style.

Setting

Participants were selected from diploma nursing programs at two colleges in Central Ontario. The first, College A, is in north-central Ontario, with a full-time enrollment exceeding 5,000 and an additional 25,000 students who access learning resources on a part-time, and continuing learning basis. The nursing program, three years in length, was selected to access students enrolled in a humanistic-educative curriculum.

The second, College B, also in central Ontario, is one of Canada's largest community colleges attracting approximately 11,000 full-time and 50,000 part-time students. The nursing program, three years in length, was selected to access students enrolled in a traditional curriculum.

Sample

Non-randomized, convenience sampling was employed. The study population consisted of 14 nursing faculty, 67 first-year nursing students, and 90 second-year nursing students from College A, and 240 second-year nursing students from College B. Students who were registered practical nurses, enrolled part-time, repeating the program, or under

18 years of age were excluded.

The sample from College A included eight nursing faculty, 49 first-year students, and 56 second-year students. The nursing program at College A was based on a humanistic-educative curriculum and congruent with a collaborative approach to teaching and learning. Selecting students from the program allowed a comparison to be made between first-year nursing students' self-efficacy for collaborative learning, to that of second-year nursing students, enrolled in the same collaborative program. Teachers from this program were selected to determine the relationship between students' perceptions of their teachers' collaborative teaching style and students' self-efficacy for collaborative learning. In addition, the relationship between teachers' perceptions of their collaborative teaching style and students' perceptions of teachers collaborative teaching style was explored.

The sample from College B included 69 full-time students enrolled in the second-year of the nursing program. The program was based on a traditional curriculum, which may be antithetical to collaborative teaching approaches. Selecting students from a traditional program, allowed a comparison to be made between the self-efficacy of second-year students for collaborative learning to that of second-year students enrolled in a collaborative program. Second-year students were selected because, based on Bandura's theory of self-efficacy, it was assumed that they would be more self-efficacious in collaborative learning than first-year students. According to Bandura's theory of self-efficacy, students would have had more opportunities to perform the collaborative behavior and, therefore, would be more confident.

Teachers were selected from College A only, and included those who taught first and second-year students in the collaborative program. Teachers who were casual replacements were excluded. Teachers who taught in the traditional program, College B, were not included, as the focus of the study was on teachers' perceptions of the collaborative teaching styles of those teachers who taught in a humanistic-educative curriculum.

To assure representativeness of the sample, a minimum of 138 (46x3) subjects was

required for the study. Using the power table for r, with a 0.05 level of significance and a power of 0.80, a medium effect size (0.40) could be detected by a sample size of 46 (Cohen, 1988, Table 3.4.1, p.101). To ensure the minimum of participants was achieved, all potential subjects were asked to participate.

Instrumentation

Four instruments were used to collect the data. Two instruments, the Principles of Adult Learning Scale (PALS) (Conti, 1979), and the Collaborative Behaviour Scale (CBS) (Stichler, 1989, 1990) were adapted with permission for the study. The researcher-developed Demographic Questionnaires for Students (DQS) (Appendix D) and Demographic Questionnaire for Teachers (DQT) (Appendix E) were used to collect information about the participants.

Nursing students from College A, enrolled in the second semester of year one and year two of the program, were asked to complete three questionnaires. Nursing students from College B, enrolled in the second semester of year two of the program, were asked to complete three questionnaires. Teachers were selected from College A only, and completed two questionnaires during the same time period.

Principles of Adult Learning Scale (PALS)

"Collaborative learning" is an educational approach involving joint intellectual effort by students or students and teachers together (Smith & MacGregor, 1991; Evans, 1994). In a collaborative approach to teaching and learning, students work in partnership with one another and with the teacher (deTornyay, 1990). Student-faculty interactions are structured so that the student, and not the educator, is the centre of the educational process. These interactions are based on mutual respect rather than power and oppression (Sellers & Haag, 1992). Conti's definition of collaborative teaching and learning was derived from the adult education literature and is congruent with the above principles. Collaborative teaching and learning was defined as a process-oriented/learner-centered approach to teaching, with an emphasis on what the learner does (Conti, 1985). The approach depends on active student participation where the teacher functions as a facilitator whose task is to create a supportive environment where the learner is free to

take risks. When this approach is used, education becomes a cooperative art. The Principles of Adult Learning Scale (PALS) developed by Conti (1979), is congruent with the concept of collaborative teaching and learning; therefore, the PALS instrument was an appropriate one to use in this study.

The Principles of Adult Learning Scale was developed to measure the degree of practitioner support for principles of collaborative teaching-learning when teaching adults. The Principles of Adult Learning Scale was designed to measure congruency between adult education practitioners' actual, observable classroom behavior and their expressed belief in the collaborative teaching and learning approach. It has since been used in over 36 dissertations (Droessler, 1991; Viau, 1991; Wegge, 1991). The instrument was designed to be completed by teachers, measuring their expressed belief in collaborative teaching learning approaches. Conti suggested utilization of the instrument in research studies on learning efficiency in specific teaching and learning modes (Conti, 1979, 1983). Practitioners may use the scale to assess their teaching style. Other variables that may be studied are student growth in the cognitive and affective domain, the relationship between teaching and learning style, and factors influencing the situational setting such as the nature of the curriculum or the institutional setting.

The 44-item instrument is a summative rating scale using a modified Likert scale. Respondents indicate the frequency with which they practice the action described in the items. One-half of the items are stated positively so that their action is congruent with the collaborative mode. The actions of the other half are antithetical to the collaborative mode. Scores may range from 0 to 220. The mean score in the instrument is 146 with a standard deviation of 20. These normative scores for PALS remain consistent across various groups that practice adult education. The instrument can be completed in approximately 10 minutes (Conti, 1983).

Validity and Reliability. Construct validity of PALS was established by the testimony of two juries of adult educators. The first jury consisted of three adult education professors from Northern Illinois University who analysed the items, commented on the validity of the constructs in the items, and suggested improvement for varied items. The

second jury, a national jury, consisted of ten professors, with a high profile in the field of adult education. Seventy-eight percent ruled that the concept of each item was congruent with adult education learning principles associated with collaborative teaching and learning (Conti, 1983).

The content validity was established by field-testing. In phase 1, 43 practitioners at three different educational sites were tested. In phase 2, the same form of the instrument was administered to 57 practitioners enrolled in different full-time programs. The scores from the field-tests were used to assess the content validity of each item. Pearson product-moment correlations were calculated to evaluate the relationship between each individual item and the criterion measure of total score, and indicated that of the 44 items in the questionnaire, 25 items were significant at the .001 level, eight at the .01 level, seven at the .05 level, and four at the .10 level (Conti, 1979).

Criterion related validity was established by comparing the scores on PALS to those of the Flanders Interaction Analysis Categories (FIAC). Both instruments measure initiating and responsive actions. The eighty percent who scored two standard deviations above or below the mean on PALS were observed, and their classroom behaviors were evaluated by means of the FIAC. These data were subsequently rated according to the FIAC, and these scores were compared to PALS. Pearson product-moment correlations between PALS and each of the three possible FIAC ratio scores of teacher response ratio, teacher question ratio, and pupil initiation ratio, showed a positive correlation of .85, .79, and .82. The high correlations statistically confirmed that PALS consistently measures initiating and responsive constructs and that PALS is capable of consistently differentiating among those who have divergent views concerning those constructs (Conti, 1979, 1983).

A follow up and factor analysis of PALS lent support to the construct validity of the instrument (Conti 1985). Seven factors were statistically derived from the overall PALS score, supporting the collaborative approach to teaching and learning. By analysing those factors, teachers may gain a clearer understanding of their classroom behavior. High scores in each area represent support for the concept implied in the factor name.

The seven factors are: Learner Centered Activities; Personalizing Instruction;

Relating to Experience; Assessing Student Needs; Climate Building; Participation in the Learning Process; and Flexibility for Personal Development (Conti, 1985). The Learner Centered Activities factor is considered the main factor and comprises 12 of the negative items in the instrument. Opposition to these items implies that teachers practise behaviors which allow initiating action by the student and encourage students to take responsibility for their own learning. Personalizing Instruction, the second factor, consists of six positive items and three negative items. Teachers who score high on this factor do a variety of things that personalize learning to meet the unique needs of each student. Relating to Experience, the third factor, is composed of six positive items, and teachers who score high take into account their students' prior experiences and encourage them to relate their new learning to experiences. The fourth factor, Assessing Student Needs, is made up of four positive items, and teachers who treat students as an adults, by finding out what students want and need to know, would score high. In the fifth factor, Climate Building includes four positive items which are congruent with a friendly and informal environment, where dialogue and interaction with others is encouraged. The sixth factor, Participation in the Learning Process, contains four positive items, designed to measure the amount of student involvement in determining the nature, and evaluation of the content material. Flexibility for Personal Development is composed of five negative items. Those who oppose the collaborative approach to teaching and learning view themselves as providers of knowledge rather than as facilitators.

The reliability of PALS was established using the test-retest method using the final 44-item form. The Pearson Correlation for the 23 practitioners in the sample group yielded a reliability coefficient of .92 (Conti, 1983).

Adaptation of PALS. Permission was obtained from the author of the instrument to adapt and use the PALS instrument (Appendix F). The original instrument was used for classroom teachers only. The Principles of Adult Learning Scale was adapted to be completed by teachers (TPALS) who teach in either/both classroom/clinical area. The directions outlined on the survey were changed from: "The following survey contains several things that a teacher might do in a classroom", to "The following survey contains

several things that a teacher might do in a classroom/clinical area". Only three of the forty-four questions required adaptation to the clinical area, and included the following:

1. " I allow students to participate in developing the criteria for evaluating our performance in class", was changed to "I allow students to participate in developing the criteria for evaluating our performance in class/clinical area".
2. "I allow students to participate in making decisions about the topics that will be covered in class", was changed to "I allow students to participate in making decisions about the topics that will be covered in class/clinical area".
3. "I avoid class discussion of controversial subjects that involve value judgments", was changed to "I avoid class/clinical discussion of controversial subjects that involve value judgments".

The Principles of Adult Learning Scale, designed to be completed by teachers to measure their collaborative teaching style, was adapted to be completed by students, to measure their perceptions of their teachers' collaborative teaching style. This instrument was retitled Student Principles of Adult learning Scale (SPALS). The directions outlined on the survey were changed from "The following survey contains several things that a teacher of adults might do in a classroom. For each item please respond to the way you most frequently practice the action described in the item", to "The following survey contains several things that your teacher might do in the classroom/clinical area. For each item respond to the way the teacher with whom you worked most closely in the current academic year practices the action described in the item". All questions were adapted for use with the students. Three examples of how questions were adapted are:

1. " I encourage dialogue among my students", was changed to "My teacher encourages dialogue among us".
2. " I arrange the classroom so that it is easy for students to interact", was changed to " My teacher arranges the classroom so that it is easy for us to interact".
3. "I help students relate new learning to their prior experiences" was changed to " My teacher helps us relate new learning to our prior experiences".

Feedback for the adapted instrument, was obtained,from eight nursing students,

enrolled in a 3-year college diploma program, who completed them. The students assessed the instruments for relevance, wording, clarity and flow. The writer and two university professors also assessed the adapted questionnaires, and no further changes were made.

The Collaborative Behavior Scale (CBS)

The CBS was designed by Stichler (1989) as a self-report measure utilized to determine the extent of respondents' perceptions of collaborative relationships. It was developed to measure respondents' collaborative behaviors between the nurse and the physician (Part A) and between the nurse and the manager (Part B) in a specific departmental relationship. Nurse-physician collaborative behavior and nurse-manager collaborative behavior significantly predicted job satisfaction. The CBS was developed using a conceptual framework related to interactional theory and social theory. It measures the amount of power balancing, interacting, and interpersonal valuing that occurs in a collaborative relationship. Stichler refers to collaborative behaviors as assertive and cooperative behaviours that promote a feeling of mutuality, partnership, or teamwork. The questions used in instrument support the related literature on collaboration and are congruent with the purpose of this study.

The CBS is a four point Likert-type scale with response options ranging from "rarely" (1) to "nearly always" (4). The higher the total score, the more collaborative the relationship. The 20 item CBS was developed using the theoretical work of Deutsch (1973, cited in Stichler, 1990), and Homans (1950, cited in Stichler, 1990).

Validity and Reliability. The Weiss and Davis Collaborative Practice Scale (CPS) (1985), was administered to test the convergent validity of the Stichler Collaborative Behavior Scale (CBS) (1989). Weiss and Davis designed the CPS to measure the collaborative practice between nurse and physicians. The scale had a nurse and physician version, but only the nurse version was used by Stichler. Weiss and Davis reported Cronbach's alpha coefficients for internal consistency as .80 for the nurse CPS (NCPS) on initial testing and .83 on a subsequent test. The test-retest reliability was .79. Construct validity testing using factor analysis yielded two factors for NCPS: 1) direct assertion of professional expertise and opinion, and 2) active clarification of mutual responsibilities.

The content validity index (CVI) for the instrument was reported as .91 (Stichler, 1989). Factoral validity was established using an alpha factoring technique. Varimax rotation yielded a simple structure with seventy-three (73%) of the variance attributed to factor 1 (direct assertion of professional expertise and opinion). Factor loadings ranged from .79 to .92. Reliability was initially tested using Cronbach's alpha with item total correlations ranging from .78 to .90 and a standardized item alpha of .98. Further psychometric testing (Stichler, 1990) of the CBS-A had a Cronbach's alpha of .96 with an inter-item correlation of .57, and the CBS-B a Cronbach's alpha of .98 with an inter-item correlation of .68 ($\underline{N} = 188$). Convergent and discriminate validity of the instrument was confirmed by examining correlation coefficients between the CBS-A and the CBS-B with the Collaborative Practice Scale (Weiss, 1985).

Adaptation of CBS. Permission was obtained from the author to adapt and use the scale to measure nursing students' self-efficacy for using collaboration as a learning style (SECL) (Appendix G). All questions were adapted. Directions were changed from "The purpose of this scale is to determine the extent of collaboration behaviors which generally exist between you and the physicians with whom you work", to "The purpose of this scale is to determine how you feel in performing the following behaviors in your current learning environment. When learning new things with your classmates/clinical group in your nursing program, how confident are you in your ability to learn by:" Examples of how three questions were adapted are:

1. "We feel free to share ideas with one another", was changed to " Freely sharing ideas with one another".
2. " There is a feeling of mutual regard and respect", became "Having a feeling of mutual regard and respect for one another".
3. "We trust one another" was altered to "Trusting one another".

Feedback for the adapted instrument was obtained, from eight nursing students, enrolled in a 3-year college diploma program which was not, included in this study. The students assessed the instruments for relevance, wording, clarity and flow. The writer and two university professors also assessed the adapted questionnaires, and no further changes

were made.

Student Demographic Questionnaire (SDQ)

The researcher-designed SDQ was comprised of ten items, eight to which subjects responded by either filling in the blank or circling the number that corresponded to their answer. Data about age, sex, level of education, marital status and previous collaborative learning experience were collected. To collect data about previous collaborative experience, four questions were designed, to which students were asked to respond on a scale of 1-5. These variables were selected to control for the potential of previous collaborative experience on students' self-efficacy for collaborative learning. Two open-ended questions measured student collaborative learning self-efficacy since entering the nursing program. The demographic questionnaire was reviewed by two nursing experts for content and clarity. No pilot testing was performed.

Teacher Demographic Questionnaire (TDQ)

The researcher-designed TDQ is comprised of six items to which teachers were asked to respond by either filling in the blank or circling the number that corresponded to their answer. Data about age, gender, marital status, level of education, employment status, and years of experience were measured. These variables were selected because of their potential influence on teachers' perceptions of their collaborative teaching style. The demographic questionnaire was reviewed by two nursing experts for content and clarity. No pilot testing was performed.

Data Collection Procedures

Approval to conduct the research was received from the University of Western Ontario Review Board for Health Sciences Research involving Human Subjects (Appendix H). Permission to access the subjects was sought from the Academic Directors at the Colleges in which the study was conducted.

The researcher met with the Academic Director, Health Sciences Program, at College A, described the study, and requested permission verbally and in writing, to conduct the study in the nursing program. Verbal approval was granted to collect data from the teachers, first-year, and second-year students in the program.

The researcher spoke with the Academic Director of the Health Sciences Program, at College B, by telephone. The study was explained and permission requested to conduct the study in the nursing program. Verbal permission was granted to collect data from second-year nursing students.

Students From College A

The researcher met with the faculty at College A who taught year one and year two students. Permission was requested from the teachers to explain the study to their classes and allow for distribution and completion of three questionnaires during class time. The researcher spoke to students from six classes, with the teachers absent from the classroom. The study was explained and students were given the opportunity to ask questions. Assurances of anonymity and confidentially were provided. Students' participation was requested and they were told that their consent to participate would be indicated by return of the questionnaires. The students were given a letter of information (Appendix I), and three questionnaires (Appendix A, Appendix B, Appendix D) which were expected to take, in total, 20-25 minutes to complete. They were asked not to put their names on the questionnaires and had the choice of completing the three questionnaires during class time or dropping them off in a designated locked box within forty-eight hours. All students who participated completed the questionnaires during class time and delivered them directly to the researcher. A sufficient sample size was accomplished from students who were approached during class time; therefore, it was unnecessary to post a memo to access more students.

Students From College B

The researcher met with two teachers at College B, who taught year two students. Permission was requested from the teachers to explain the study to their classes and allow for distribution and completion of three questionnaires during class time. Students from five classes were approached. The remaining data collection procedure was identical to the procedure followed at College A.

Teachers

The researcher requested permission from the nursing program coordinator at

College A to explain the study to the teachers during a faculty meeting. Ten faculty members were present. During the meeting the study was explained, a letter of information distributed (Appendix J), and teacher participation requested. Teachers' questions about the study were answered. Assurances of anonymity and confidentially were provided. Due to time limitations, teachers were unable to complete the questionnaires during the faculty meeting. The teachers were informed that the two questionnaires (Appendix C, Appendix E), which took in total 20 minutes to complete, could be obtained from the nursing program secretary, and their consent to participate would be indicated by their return of the completed questionnaires. Teachers were instructed not to sign the questionnaires. Teachers were asked to return the completed questionnaires to a designated locked drop box in the nursing office, within one week. A memo was posted to access teachers who were not at the faculty meeting, giving them the opportunity to participate (Appendix K). Information about the study was provided in written form (Appendix J). After a period of ten days, a follow-up memo was posted to remind teachers to return the completed questionnaires (Appendix L).

Data Analysis Plan

The data were analyzed using the SPSS/PC+. Descriptive and inferential statistics were calculated. A level of significance of .05 was used for all inferential statistical analysis. Pearson Product Moment Correlation Coefficients were proposed to test hypothesis one which was to determine the relationship between students' self-efficacy for using collaboration as a learning style and their perceptions of their teachers' collaborative teaching style. For hypothesis two, an independent t-test was proposed to compare the collaborative self-efficacy scores of first-year and second-year nursing students. An independent t-test was also planned to test hypothesis three, to compare the means of collaborative self-efficacy scores of second-year nursing students in a humanistic-educative curriculum to those of second-year nursing students in a traditional curriculum.

The use of Pearson Product Moment Correlation Coefficients was proposed to answer research questions one and two, to examine the relationship between both first and second-year nursing students' perceptions of their teachers' collaborative teaching style

and their self-efficacy in using collaboration in their style of learning. For research question three, ANOVA was planned to examine the relationship between age and students' self-efficacy, and educational level and students' self-efficacy. An independent t-test was proposed to measure the relationship between gender and student self-efficacy. Pearson Product Moment Coefficients was proposed to correlate the relationship between previous collaborative experience and student-self-efficacy. For research question four, Pearson Product Moment Correlation Coefficient was proposed to examine the relationship between teachers' perceptions of their collaborative teaching style and the students' perceptions of teachers' collaborative teaching style.

The two open-ended questions allowed for unstructured responses, so that respondents had greater response flexibility. Participants could respond more than once to each question, or not at all. One response from each participant was to be counted for each category and subcategory. It was planned to group conceptually similar responses, and tally the number of responses for each category. Because students may respond more than once to each question, and some may not respond, the total number of responses may not equal the total number of students. It was agreed that a second reader would examine the responses for conceptual similarity.

Protection of Human Rights

There were no known risks to subjects in this study. Permission to approach nursing students and teachers for participation in the research study was granted by the appropriate authorities in the nursing programs.

Students

Faculty were absent during explanation of the study to the class, and during completion of the questionnaires. Time was planned for students to ask questions during this time. Students were assured both verbally and in writing, that their participation in the study was voluntary, and returning the questionnaires would be indicative of their consent to participate. Students were informed that faculty would have no knowledge of their participation status, and that they could refuse to answer any of the questions, and could withdraw from the study at any time without consequence. Study results were not

revealed until final grades were submitted. Results were reported as group results, so that no one would be able to identify participants by their answers.

Students were advised not to put their names on the questionnaires. All answers would remain anonymous. Only group data were reported. Completed questionnaires were kept in a locked filing cabinet at the home of the investigator, and only the researcher and data analysis advisor had access to the raw data. Questionnaires were destroyed after data were abstracted from them.

Teachers

Faculty were provided with an explanation of the study during a faculty meeting and had an opportunity to ask questions. Faculty were assured, both verbally and in writing, that participation in the study was voluntary and there would be no consequences to their participation or non-participation. Participants were informed that they could refuse to answer any of the questions or withdraw from the study at any time without penalty. All the results from the study were reported as group results, so that participants would not be identified by their answers. Questionnaires were destroyed after data were abstracted from them.

Summary

This chapter included a description of the study design, instruments, setting, sample, and data collection procedures. The data analysis plan and the measures to protect the rights of participants were presented. Results of this research are presented in chapter 4.

CHAPTER 4

RESULTS

In this chapter is included a description of the sample, and the means, standard deviations, and range of scores for the major study variables. The results of the inferential statistical analysis are reported for each hypothesis and research question. Additional analysis is also presented.

Sample

Demographic Characteristics of Students

The sample consisted of 174 students, 105 were from College A, and 69 from College B (Table 1). Of the 105 students from College A, 49 were enrolled in first-year, and 56 in second-year. Only second-year students from College B were included. Most of the students (91 %) were female. The majority (79 %) were between the ages of 18-25 years. Most (85 %) were single. Prior to their nursing education, 60 % ($n = 105$) had secondary education, 35 % ($n = 61$) post-secondary, 3 % ($n = 5$) undergraduate, and 2 % ($n = 3$) had a graduate degree.

Demographic Characteristics of Teachers

The sample consisted of 8 teachers from College A, the college using a humanistic-educative curriculum (Table 2). Almost all (87 %, $n = 7$) teachers were female. Teachers' age ranged from 35-52 years, with a mean age of 44 years ($SD = 6$). Half ($n = 4$) of the teachers were married; 25 % ($n = 2$) were separated/divorced, 12.5 % ($n = 1$) single, and one widowed. Teachers' years of teaching experience ranged from 3-19 years ($M = 9.75$, $SD = 4.7$). Half the teachers ($n = 4$) had a graduate degree, 25 % ($n = 2$), had an undergraduate degree, and 25 % ($n = 2$) were diploma-prepared. Thirty-seven and a half-percent ($n = 3$) were employed full time, 50 % ($n = 4$) were employed on a sessional basis, and 12.5 % ($n = 1$) were employed on a partial load basis.

Descriptive Statistics for Measures of Major Study Variables

In this section the means and distribution of scores for the Principles of Adult Learning Scale (PALS), the Self-Efficacy for Collaborative Learning Scale (SECLS), and the Previous Collaborative Learning Scale (PCLS) are reported. Cronbach's alpha for

each questionnaire is also reported.

Pearson Skewness Coefficient was calculated using the formula reported by Munroe and Page (1993, p. 30) to determine that the interval-level data were normally distributed. Thus, parametric statistical tests were used. Pearson Product Moment Correlation Coefficients, independent t-tests, and analysis of variance (ANOVA) were determined to be appropriate for use in the study.

Table 1

Demographic Characteristics of Students (N = 174)

Characteristic	Category	Frequency	
		n	%
Sex	Male	16	9 %
	Female	158	91 %
Age	18 - 25	138	79 %
	26 - 30	14	8 %
	31 - 35	12	7 %
	36 - 40	6	3 %
	41 - 50	4	2 %
Marital Status	Single	148	85 %
	Married	13	7 %
	Separated/Divorced	12	7 %
	Widowed	1	.005 %
Formal Education	Secondary	105	60 %
	Post Secondary	61	35 %
	Undergraduate	5	3 %
	Graduate	3	2 %

Table 2

Demographic Characteristics of Teachers (N = 8)

Characteristic	Category	Frequency	
		n	%
Sex	Male	1	12.5 %
	Female	7	87.5 %
Age	Mean	44	-
Marital Status	Single	1	12.5 %
	Married	4	50 %
	Separated/divorced	2	25 %
	Widowed	1	12.5 %
Educational Preparation	Diploma	2	25 %
	Undergraduate Degree	2	25 %
	Graduate Degree	4	50 %
Employment Status	Partial Load	1	12.5 %
	Sessional	4	50 %
	Full Time	3	37.5 %

Student Principles of Adult Learning Scale (SPALS)

The internal consistency of SPALS was adequate with Cronbach's alpha of .77, above the minimum standard value of .70 for a new instrument (Burns, & Grove, 1987). The internal consistency for the seven subscales was also tested using Cronbach's alpha. The Cronbach's alpha for the subscales of Learner Centered Activities (factor 1), Relating to Experience (factor 3), and Assessing Student Needs (factor 4), were .70, .70, .75, respectively, at or above the required minimum standard of .70. Climate Building (factor 5) subscale had a Cronbach's alpha of .68, close to the minimum standard, and was included in the analysis. Thus, only the four subscales deemed to be reliable were included in the analysis. Because the internal consistency for the additional three subscales,

Personalizing Instruction (factor 2), Participation in Learning Process (factor 6), Personal Development (factor 7), was less than .70 (with values of .57, .48, .39, respectively) they will not be presented. The mean, standard deviation, and range of scores for the total scores on SPALS, and total scores for the SPALS Learner Centered Activities, Relating to Experience, Assessing Student Needs, and Climate Building subscales are reported in Table 3. Students' total scores on SPALS ranged between 72-184, with a mean of 122.8, located in the upper half of the possible range of scores for all subscales.

Table 3

Mean, Standard Deviation, and Range of Scores for Student Principles of Adult Learning Scale (SPALS) (N = 174)

Student Principles of Adult Learning Scale	Mean	SD	Range of Scores	Possible Range
Learner Centered Activities	34.0	8.7	7 - 57	0 - 60
Relating to Experience	18.8	5.3	0 - 29	0 - 30
Assessing Student Needs	12.6	4.4	1 - 20	0 - 20
Climate Building	14.7	3.0	6 - 20	0 - 20
Total Score (7 Subscales)	122.8	18.7	72-184	0 - 220

Teacher Principles of Adult Learning Scale (TPALS)

The internal consistency (reliability) for TPALS was not calculated, as the sample size ($n = 8$) was insufficient. The mean, standard deviation, and distribution of scores of the TPALS and subscales are reported in Table 4. Calculations showed that teachers' TPALS scores ranged from 147-171, with a mean of 159.9, in the upper half of the possible range of scores.

Self-Efficacy for Collaborative Learning Scale (SECLS)

The internal consistency was calculated for SECLS using Cronbach's alpha and found to be .96. Out of a possible score range of 20-80, students' ($n = 174$) mean scores ($M = 66.4$, $SD = 11.2$) were high, indicating a high level of confidence. Students' scores

Table 4

Mean, Standard Deviation, and Range of Scores for Teacher Principles of Adult Learning Scale (TPALS) (N = 8)

Teacher Principles of Adult Learning Scale	Mean	SD	Range of Scores	Possible Range
Learner Centered Activities	41.4	5.0	35 - 49	0 - 60
Personalizing Instruction	30.5	3.3	24 - 34	0 - 45
Relating to Experience	24.8	2.1	22 - 28	0 - 30
Assessing Student Needs	15.5	3.9	8 - 20	0 - 20
Climate Building	17.9	1.6	15 - 20	0 - 20
Participation in Learning Process	14.6	2.5	9 - 17	0 - 20
Flexibility for Personal Development	15.3	3.1	12 - 20	0 - 25
Total Score	159.9	7.9	147 - 171	0 - 220

ranged from 23-80.

Previous Collaborative Learning Scale (PCLS)

The PCLS, part of the demographic questionnaire, consisted of four questions designed to measure previous collaborative experience of students ($n = 174$). The reliability for internal consistency was calculated for PCLS using Cronbach's alpha, and found to be .91. Students' mean score was ($M = 15.6$, $SD = 3.9$), out of a possible score range of 4-20. Students' scores ranged from 5-20.

Inferential Statistics

Hypothesis 1

The relationship between students' self-efficacy for using collaboration as a learning style and their perceptions of their teachers' collaborative teaching style was examined by calculating Pearson Product-Moment Correlation Coefficients between the SPALS scores and SECL scores (Table 5). Moderate correlations were found between the SPALS total scores and SECL scores, and between the SPALS Relating to Experience,

Assessing Student Needs, and Climate Building subscale scores and the SECL scores. These findings provide support for the first hypothesis, that students who reported high self-efficacy for collaborative learning also reported higher scores regarding their perceptions of their teachers' collaborative teaching style.

Table 5

Correlations Between Students' Perceptions of Teachers' Collaborative Teaching Style and Their Self-Efficacy in Collaborative Learning

Student Principles of Adult Learning Scale	Self-Efficacy
Total Score	.28**
Subscales	
Learner Centered Activities	- .08
Relating to Experience	.30**
Assessing Student Needs	.35**
Climate Building	.30**

** $p < .01$

Hypothesis 2

It was hypothesized that second-year nursing students enrolled in a humanistic-educative curriculum will have significantly higher collaborative self-efficacy scores than first-year nursing students enrolled in a humanistic-educative curriculum. This hypothesis was tested by using an independent t-test to compare the difference in means between the self-efficacy collaborative learning (SECL) scores of first-year students to those of second-year students. There was no significant difference between first-year nursing students' self-efficacy ($M = 65.9$, $SD = 13.3$), and second-year nursing students' self-efficacy for collaborative learning ($M = 66.0$, $SD = 11.5$; $t\ [1,103] = -.07$, $p = .94$) and, therefore, the hypothesis was not supported.

Hypothesis 3

The third hypothesis was that nursing students' self-efficacy for collaborative

learning in a humanistic-educative curriculum will be significantly greater than that of students enrolled in a traditional nursing curriculum. This hypothesis was examined by using an independent t-test to determine the difference in means between the self-efficacy collaborative learning (SECL) scores of students in the two curricula (Table 6). No significant difference between the two groups was found for students' self-efficacy for collaborative learning (t [1,172] = -.07, p = .48). In addition, there was no significant difference (t [1,123] = -0.6, p = .54) in the self-efficacy of second-year students in the two curricula. Thus, this hypothesis was not supported.

Table 6

Means and Standard Deviations of Student SECL Scores in a Humanistic-Educative Curriculum and Students in a Traditional Curriculum

Self-Efficacy Total Score	n	Mean	SD
Humanistic-Educative Curriculum			
First-Year	49	65.9	13.3
Second-Year	56	66.0	11.5
First and Second Year	105	66.0	12.3
Traditional Curriculum	69	67.2	9.3

Research Question 1

The relationship between first-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style was examined. Correlations between first-year students' SPALS scores and SECL scores were calculated (Table 7). A significant moderate relationship (r = .28, p < .05) was found between first-year nursing students' total scores on SPALS and their self-efficacy in using collaboration as a learning style. Additionally, a moderate correlation (r = .29, p < .05) was found between first-year nursing students' total scores for the Assessing Student Needs subscale and their self-efficacy in using collaboration as a learning style.

Table 7

Correlations between First-Year Students' Perceptions of Teachers' Collaborative Teaching Style and Their Self-Efficacy in Collaborative Learning (N = 49)

Student Principles of Adult Learning Scale	Self-Efficacy
Total Score	.28*
Subscales	
Learner Centered Activities	-.02
Relating to Experience	.08
Assessing Student Needs	.29*
Climate Building	.10

* $p < .05$

Research Question 2

The relationship between second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style was examined. Pearson-Product Moment Correlations were used to calculate the relationship between second-year students' SPALS scores and SECL scores (Table 8). A significant relationship ($r = .41$, $p < .01$) was found between second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style when the total scores were calculated. In addition, a significant relationship was found between the scores of the Relating to Experience ($r = .42$, $p < .01$), Assessing Student Needs ($r = .34$, $p < .01$), and Climate Building ($r = .50$, $p < .01$) subscales and second-year students' self-efficacy for collaborative learning.

Research Question 3

The relationships between selected demographics (age, sex, marital status, educational level, previous collaborative learning experience) and students' self-efficacy were examined. To measure the relationship between age and student self-efficacy,

Table 8

Correlations between Second-Year Students' Perceptions of Teachers' Collaborative Teaching Style and Their Self-Efficacy in Collaborative Learning (N = 56)

Student Principles of Adult Learning Scale	Self-Efficacy
Total Score	.41**
Subscales	
Learner Centered Activities	- .10
Relating to Experience	.42**
Assessing Student Needs	.34**
Climate Building	.50**

** $p < .01$

ANOVA was employed to compare the means of student self-efficacy scores according to the various age groups. There was no statistically significant difference among the means (F [1,4] = 1.8, p = .13). Additionally, a t-test was used to compare self-efficacy for 18-25 year old students (n = 138) to all the other students (n =36) but no significant difference was found (t [1,168] = -0.7, p = .47).

To measure the relationship between gender and student self-efficacy, a t-test was employed to compare the means of the self-efficacy scores for the two groups. The self-efficacy mean for female students (n = 158) was similar to that of male students (n = 16) with no significant difference existing between the means (t [1,172] = 0.2, p = .84).

To measure the relationship between marital status and student self-efficacy, ANOVA was employed. No significant difference existed among the means of students' self-efficacy scores according to their marital status (F [1,3] = .28, p = .84).

To measure the relationship between educational level and student self-efficacy, ANOVA was used. No significant difference was found among the means of students' self-efficacy scores for collaborative learning and their previous formal education (F [1, 3] = .26, p = .86).

The relationship between previous collaborative experience and student self-efficacy for using collaboration as a learning style was examined by calculating the Pearson Product-Moment Correlation Coefficients between scores on the Self-Efficacy for Collaborative Learning Scale (SECLS) and Previous Collaborative Learning Scale (PCLS). The Previous Collaborative Learning Scale (PCLS), consisting of four questions (demographic questionnaire), designed to measure students' previous collaborative experience prior to nursing program. The PCLS scores were calculated by adding responses to the four questions. A significant relationship was found when the scores for second-year students in both the humanistic-educative program ($r = .29$, $p < .05$), and traditional program ($r = .33$, $p < .01$) were calculated. Significant correlations were also found when the scores for all students ($r = .21$, $p < .01$) were calculated. A significant relationship was not found when the scores for first-year students were calculated.

Research Question 4

Teachers' perceptions of their collaborative teaching style and the students' perceptions of teachers collaborative teaching style were examined. A t-test was used to compare the means of teachers' TPALS scores and students' SPALS scores (Table 9). A significant difference in means was found when both the total ($n = 105$) and separate scores of first-year ($n = 49$), and second-year ($n = 56$) students were compared to the teachers' TPALS scores.

Teachers perceived themselves to be more collaborative in teaching style, ($M = 159.9$, $SD = 7.9$), than students perceived them to be ($M = 128.5$, $SD = 14.52$; (t [1,111] $= 6.0$, $p < 0.001$). The difference in the means between the Learner Centered Activities (t [1,111] $= 2.6$, $p < .05$), Relating to Experience (t [1,111] $= 2.9$, $p < .005$), and Climate Building (t [1,111] $= 2.7$, $p = .009$) subscales were significant.

Additional analysis for students by year was conducted. A t-test comparing the means of first-year students ($M = 127.9$; $SD = 13.5$) and all teachers ($n = 8$) ($M = 159.9$; $SD = 7.9$) revealed a significant difference in teachers' perceptions of their collaborative teaching style and the students' perceptions of teachers' collaborative teaching style. Teachers perceived themselves to be more collaborative in teaching style than first-year

Table 9

Differences in Means Between TPALS Scores and SPALS Scores of Students in Humanistic-Educative Curriculum

	n	Mean	SD	t	p
Total Score					
Teacher	8	159.9	7.9		
Student	105	128.5	14.5	6.02	.000
Learner Centered Activities					
Teacher	8	41.4	5.0		
Student	105	33.1	9.0	2.6	.002
Relating to Experience					
Teacher	8	24.8	2.1		
Student	105	20.4	4.2	2.9	.005
Assessing Student Needs					
Teacher	8	15.5	3.9		
Student	105	13.5	3.9	1.4	.174
Climate Building					
Teacher	8	17.9	1.6		
Student	105	15.3	2.7	2.7	.009

students perceived them to be (t [1,55] = 6.5, $p < 0.001$). A t-test comparing the means of second-year students (M = 129.0; SD = 15.5) and teachers (M = 159.9; SD = 7.9) revealed a significant difference in teachers' perceptions of their collaborative teaching style and the students' perceptions of teachers' collaborative teaching style. Teachers perceived themselves to be more collaborative in teaching style than second-year students perceived them to be (t [1,62] = 5.5, $p < 0.001$).

Open-Ended Questions

Two open-ended questions were included in the demographic questionnaire. The questions were developed to allow for an unstructured response, so that respondents had

greater response flexibility. The unstructured response is a responsive form over which the researcher attempts to exert little control (Tuckman, 1994). In responding to the questions, some participants made more than one comment, while others made no comment. No more than one response from each participant was counted for each category and subcategory. Conceptually similar responses were sorted, and the number of responses tallied in each of the categories. The categories were obvious as students' comments were consistent and similar. Therefore, no interpretation of what comments implied was required. Categorization of responses was verified by a research expert. Because some students made more than one response to each question while others did not respond, the total number of responses did not equal the total number of students.

Responses to Open-Ended Question 1

Students' comments to the question "What has contributed to your self-efficacy in collaborative learning over the past year?" were organized into 7 categories (Table 10). The category "Working with Peers" had the greatest number of responses (48.8 %). This category consisted of four subcategories, all relating to working with peers. The first subcategory "feeling valued and respected" consisted of 17.8 % of student comments; for example, "knowing that my ideas and opinions are valued", "my ideas are always listened to, valued, and respected", "accepted and respected by all classmates", "being treated as though my ideas have merit". In the second subcategory "group work", 17.2 % of the students commented that working in groups contributed to their self-confidence in collaborative learning; for example, "working in small groups and participating more and more", "group interaction", "experience in group learning". In the third subcategory "supportive students" were 8.6 % of the responses; for example, "classmates encouragement", "helpful peers", "help of others", "confidence of peers", " we are a team". The fourth subcategory "increased comfort level" had 5.2% of student responses and included "feeling comfortable with everyone", "getting to know your peers makes me feel more comfortable and confident around them", "feeling comfortable learning from one another".

The next largest category related to "Teachers". Thirty-one percent of the students

Table 10

Comments Related to Question 1 "What has contributed to your self-efficacy in collaborative learning over the past year?"

Comment Categories	Number of Students Who Noted the Comment							
	Traditional Curriculum (n = 69)		Humanistic-Educative Curriculum (n = 105)				Total (n = 174)	
			Year 1 (n = 49)		Year 2 (n = 56)			
	n	%	n	%	n	%	n	%
Working with Peers								
Feel Valued & Respected	11	15.9 %	13	26.5 %	7	12.5 %	31	17.8 %
Group Work	11	15.9	10	20.4	9	16.1	30	17.2
Supportive Students (peers)	2	2.9	6	12.2	7	12.5	15	8.6
Increased Comfort Level	-	-	5	10.2	4	7.1	9	5.2
Teachers								
Encouragement & Positive Feedback	7	10.1	4	8.2	10	17.9	21	12.1
Interactive Style	5	7.2	8	16.3	6	10.6	20	11.5
Supportive Teachers	7	10.1	6	12.2	2	3.6	15	8.6
Experience	12	17.4	2	4.1	12	21.4	24	13.8
School	6	8.7	7	14.3	9	16.1	22	12.6
Personal	9	13.0	2	4.1	10	17.9	21	12.1
Previous Work Experience	6	8.7	3	6.1	3	5.4	12	6.9
Knowledge	6	8.7	-	-	5	8.9	11	6.3

wrote a teacher-related comment. Three subcategories formed this category, as it was obvious that the comments related to teachers. In the first subcategory, "encouragement and positive feedback", were 12.1 % of student comments; for example "being told you are doing a good job", "my teacher's encouragement", "knowing that my competence is recognized by my teachers". In the subcategory "interactive style" were 11.5 % of the student comments; for example, "teachers treating me like an equal", "facilitators who are easily approached when there is a problem", "one-to-one interaction with instructors", "teachers who are open and you can talk to them about anything", "a teacher who listens and respects their students as people". The subcategory "supportive teachers" consisted of 8.6 % of the responses; for example "teachers who are caring and understanding", "support from teachers", "teachers who really care".

The remaining categories were: "Experience" (13.8 %), for example: "building my self-confidence through experience", "ongoing nursing experiences'; "School" (12.6 %), for example, " open-learning concepts here" "the nature of the program"; "Personal" (12.1 %), for example, "supportive family", "confidence family have instilled"; "Previous Work Experience" (6.9 %), for example, "learning from past experiences in school ", "past experiences with working"; and "Knowledge" (6.3 %), for example, "my knowledge base has increased", "tremendous amount of knowledge obtained through classes".

Responses to Open-Ended Question 2

The second question was "Are you currently more confident in using collaboration in your learning than you were at the beginning of the nursing program? Please explain." Students' comments to the question were organized into 10 categories (Table 11). Of the 174 respondents, 71.8 % were more confident in collaborative learning than they were at the beginning of the nursing program. The most frequently mentioned comment, by 14.4 % of the students, was "Increased Comfort In Class" that contributed to their self-confidence, for example, "because I've become more comfortable with group members, "more comfortable as part of a learning team", "I know everyone really well, so I'm comfortable speaking in front of them". Of this total, 28 % were first-year students, accounting for the largest category within this group.

Table 11

Comments Related to Question 2 "Are you currently more confident in using collaboration in your learning than you were at the beginning of the nursing program? Please explain."

Comment Categories	Number of Students Who Noted the Comment							
	Traditional Curriculum (n = 69)		Humanistic-Educative Curriculum (n = 105)				Total (n = 174)	
			Year 1 (n = 49)		Year 2 (n = 56)			
	n	%	n	%	n	%	n	%
Increased Comfort In Class	5	7.2 %	14	28.6 %	6	10.7 %	25	14.4 %
Group Work	-	-	10	20.4	14	25.0	24	13.8
Increased Knowledge	13	18.8	5	10.2	6	10.7	24	13.8
Feelings Related to Peers	3	4.3	5	10.2	6	10.7	14	8.0
School Program	7	10.1	2	4.0	3	5.4	12	6.9
Experience	8	11.6	-	-	-	-	8	4.6
Personal	1	1.4	2	4.0	4	7.1	7	4.0
Teachers								
Relationship With Teacher	3	4.3	2	4.0	2	3.6	7	4.0
Encouragement From Teacher	2	2.9	2	4.0	-	-	4	2.3
Feelings Regarding Teacher	1	1.4	1	2.0	1	1.8	3	1.7
Yes	45	65.0	38	77.5	42	75.0	125	71.8
No	9	13.0	5	10.2	11	19.6	25	14.3

The second largest category, "Group Work", was cited by 13.8 % of the students. Examples included: "because of the amount of group work, I have learned to work better in a group setting", " because we work together as a group all the time". Group work was not mentioned by students in the traditional curriculum as contributing to their self-confidence in collaborative learning. "Increased Knowledge", the third most frequently mentioned comment; was included by 13.8 % of the students, for example, "more knowledgeable in what I am doing". "Feelings Related to Peers", the fourth largest category, included 8 % of the responses; for example, "opinions and ideas are valued by my peers". The sixth category, "School Program," consisted of 6.9 % of the responses; for example "the program deals with a lot of knowledge and you need to collaborate to keep up with it". In the seventh the category, "Experience", there were 4.6 % of the responses; for example; " yes, in the clinical setting where it is best to work together", "because of more experience". Increased confidence related to experience was mentioned only by students in the traditional program. Under the category "Personal" were 4 % of the responses; for example "maturity", "I now have a higher self-esteem, and am more willing to collaborate".

Under the category "Teachers" were three subcategories which included 8 % of the responses. The first subcategory "Relationship With Teacher" consisted of 4 % of the responses; for example "enjoy interaction with teachers", " encouraged to address teachers by their first names, and free to talk to them about anything", "I feel I can freely approach my teacher". The second subcategory " Encouragement From Teacher" included 2.3 % of the responses; for example, "encouraged by teachers", "encouraged by teachers to tell our opinions". The third subcategory, "Feelings Regarding Teacher" consisted of 1.7 % of the responses; for example "because of my teachers and how they've allowed me to grow", " feel accepted by my teacher".

Additional Analyses

Hypothesis Two

Hypothesis two was not supported as there was no significant difference between first-year nursing students' self-efficacy and second-year nursing students self-efficacy for

collaborative learning. A significant relationship was found between previous collaborative experience scores and self-efficacy for collaborative learning scores for second-year students ($r = .29$, $p < .05$). Given that a significant correlation was found, further analysis was conducted related to hypothesis two. Analysis of covariance (ANCOVA) was used to control for the influence of previous collaborative learning experience when comparing the self-efficacy between first-year and second-year students. Although the F value approached the .10 level of significance when PCLS scores were considered as the covariate, there was still no statistically significant difference in self-efficacy for the year groups.

Research Questions One and Two

Fisher Z transformation (Cohen & Cohen, 1983) was used to compare the correlation coefficients between first-year and second-year students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style. The correlation between students' perceptions of their teachers' collaborative style and their self-efficacy for collaborative learning was significantly stronger for second-year students than for first-year students for the Climate Building subscale ($z = 1.98$, $p < .05$). Although the second-year student correlation for the Relating to Experience subscale was stronger than that of first-year students, it was not significantly different.

Comparison of all Second-Year Students' Perceptions of their Teachers' Collaborative Teaching Style

A t-test was used to compare the mean scores of all second-year students' perceptions of their teachers' collaborative teaching style (Table 12). A significant difference was found for the total scores ($t = 4.6$, $p = .000$), and subscale scores Relating to Experience ($t = 4.6$, $p = .000$), Assessing Student Needs ($t = 2.2$, $p = .027$), and Climate Building ($t = 3.3$, $p = .001$). Second-year students in the humanistic-educative curriculum perceived that their teachers were more collaborative in teaching style than did second-year students in the traditional curriculum.

Table 12

Differences in Means Between SPALS Scores of Second-Year Students in a Humanistic-Educative Curriculum and Second-Year Students in a Traditional Curriculum

	n	Mean	SD	t	p
Total Score					
Humanistic-Educative Curriculum	56	129	15.5		
Traditional Curriculum	69	114	20.9	4.6	.000
Learner Centered Activities					
Humanistic-Educative Curriculum	56	34.0	9.1		
Traditional Curriculum	69	35.3	8.1	- .807	.421
Relating to Experience					
Humanistic-Educative Curriculum	56	20.7	4.6		
Traditional Curriculum	69	16.3	5.9	4.6	.000
Assessing Student Needs					
Humanistic-Educative Curriculum	56	13.0	4.0		
Traditional Curriculum	69	11.2	4.6	2.2	.027
Climate Building					
Humanistic-Educative Curriculum	56	15.5	2.7		
Traditional Curriculum	69	13.8	3.3	3.3	.001

Teacher Demographic Data Analysis

Teacher demographic variables (age, marital status, years of teaching experience, employment status, educational level) were examined to determine their relationship to teachers' perception of collaborative teaching style. Each variable is reviewed.

The relationship between the age of teachers and their perceptions of collaborative teaching style was examined using Pearson Product Moment Correlations. No significant relationship was found.

The relationship between marital status and teachers' perceptions of collaborative

teaching style was examined by using ANOVA to compare the means of each group. One significant difference was found among the means of scores on the TPALS Relating to Experience subscale (F [1,3] = 6.9, p = .05). The mean scores for single, married, separated/divorced, widowed were M = 28.0, 23.0, 25.0, and 27.0 respectively.

The relationship between teachers' years of teaching experience and teachers' perceptions of collaborative teaching style was examined. Pearson Product Moment Correlations were calculated, and no significant relationship was found.

The relationship between teachers' perception of collaborative teaching style and their employment status was examined by using ANOVA to compare the means of each group. No significant differences were found.

The relationship between educational level and teachers' perceptions of collaborative teaching style was examined using ANOVA. A significant difference was found between graduate-prepared teachers on the Assessing Needs subscale and the scores of the other groups (F [1,2] = 7.5, p = .03). The mean scores of graduate-prepared, undergraduate-prepared, and diploma-prepared teachers were M = 18.5, 11.0, and 14.0 respectively.

Finally, the relationship between educational level and teachers' perceptions of collaborative teaching style, examined by using ANOVA, revealed a significant difference between diploma-prepared teachers on the Climate Building subscale (F [1,2] = 11, p = .02) and the scores of the other groups. The means of graduate-prepared, undergraduate-prepared, and diploma-prepared teachers were M = 18.5, 15.5, 19.0, respectively.

Summary of Study Results

Students' self-efficacy for using collaboration as a learning style was positively related to their perceptions of their teachers' collaborative teaching style (r = .28, p < .01). Hypothesis one was supported.

Hypothesis two stated that second-year nursing students' self efficacy for collaborative learning would be significantly greater than that of first-year nursing students. This hypothesis was not supported. The difference in means between the self-

efficacy scores of second-year nursing students and first-year nursing students who were enrolled in a humanistic-educative curriculum was not significant.

The third hypothesis, that nursing students' self-efficacy for collaborative learning in a humanistic-educative curriculum will be significantly greater than that for nursing students in a traditional nursing curriculum, was not supported. There was no significant difference between the mean scores of second-year nursing students enrolled in a traditional curriculum and those enrolled in humanistic curriculum.

A significant relationship ($r = .28$, $p < .05$) was found in response to research question one, when the relationship between first-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style was examined. As students' self-efficacy increased, so did their SPALS scores.

For research question two, a significant relationship ($r = .41$, $p < .01$) was found when the relationship between second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style was examined. As students' self-efficacy increased, their SPALS scores also increased.

For research question three, the relationships between selected demographics (age, sex, marital status, educational level) and students' self-efficacy were examined. No significant results were found.

When the relationship between previous collaborative experience and student self-efficacy was examined, a significant relationship was found for second-year students in both the humanistic-educative program ($r = .29$, $p < .05$), and traditional program ($r = .33$, $p < .01$). A significant relationship was not found when the scores for first-year students were calculated.

A significant relationship was found in response to research question four. The difference between teachers' perceptions of their collaborative teaching style and the students' perceptions of teachers' collaborative teaching style was examined. There was a significant difference between the means of teachers' TPALS scores, and students' SPALS scores. The mean score for teachers was higher, indicating that teachers perceived

themselves to be more collaborative in teaching style than students perceived them to be.

For the first open-ended question "What has contributed to your self-efficacy in collaborative learning over the past year?", there were 7 categories. The category "Working with Peers" had the greatest number of responses (48.8 %). The second largest category related to "Teachers". Thirty-one percent of the students wrote a teacher-related comment.

To the second open-ended question "Are you currently more confident in using collaboration in your learning than you were at the beginning of the nursing program? Please explain.", student comments were organized into 10 categories. Of the 174 respondents, 71.8 % were more confident in collaborative learning than they were at the beginning of the nursing program. "Increased Comfort in Class", the largest category, consisted of 14.4 % of the responses.

The correlation value between second-year students' perceptions of their teachers' collaborative style and their self-efficacy for collaborative learning was significantly stronger ($p < .05$) than that of first-year students for the Climate Building subscale.

When a t-test was used to compare the mean scores of all second-year students' perceptions of their teachers collaborative teaching style, there was a significant difference for the total scores ($t = 4.6$, $p = .000$), and subscale scores Relating to Experience ($t = 4.6$, $p = .000$), Assessing Student Needs ($t = 2.2$, $p = .027$), and Climate Building ($t = 3.3$, $p = .001$). Second-year students in the humanistic-educative curriculum perceived that their teachers were more collaborative in teaching style than did second-year students in the traditional curriculum.

Several significant results were found when the relationship between teacher demographics and teachers' perception of collaborative teaching style was examined. Due to the small sample size, the findings must be interpreted with caution. A significant difference was found among the means of scores on the TPALS Relating to Experience subscale ($F [1,3] = 6.9$, $p = .05$), when the relationship between marital status and teachers' perceptions of collaborative teaching style was examined. A significant difference was also found when the relationship between educational level and teachers'

perceptions of collaborative teaching style was examined. There was a significant difference between graduate-prepared teachers on the Assessing Needs subscale (F [1,2] = 7.5, p = .03) and the scores of other groups. Finally, there was a significant difference between diploma-prepared teachers on the Climate Building subscale (F [1,2] = 11, p = .02) and the scores of other groups.

Summary of the Chapter

In chapter 4, the results of the data analysis were presented. A summary of the results followed. A discussion of the results will be included in chapter 5. This discussion will include limitations, implications and conclusions of the study.

CHAPTER 5

DISCUSSION, LIMITATIONS, IMPLICATIONS, AND CONCLUSIONS

This chapter begins with a summary of the research results. The results are then discussed in relation to the hypotheses and research questions. The chapter concludes with the study limitations, implications for nursing education, administration, practice, and research, and a summary.

Discussion

The research findings will be discussed in relation to self-efficacy theory and collaboration literature. The examination of the study results will be presented according to the research hypotheses and research questions.

Hypothesis 1

The hypothesis that students' self-efficacy for using collaboration as a learning style will be positively related to students' perceptions of their teachers' collaborative teaching style, was supported, as predicted, within the framework of Bandura's self-efficacy theory (1977), and in the domain of self-efficacy and academic accomplishment (Bandura, 1993; Schunk, 1981, 1984; Schunk & Swartz, 1993; Zimmerman, 1995). There was a significant relationship between the students' self-efficacy scores and their perceptions of their teachers'collaborative teaching style in both the total score, and in three of the four subscale scores (Relating to Experience, Assessing Student Needs, and Climate Building).

Schunk (1985) suggested that educational practices can moderate the effects of task outcomes on self-efficacy. For example, in the context of classroom learning, students should develop a higher sense of self-efficacy for learning as they work at a task and receive some success. For this hypothesis, the task, students' ability to learn collaboratively, was positively related to the collaborative educational practice of teachers. Performance accomplishment, deemed to be the most influential source of efficacy information (Bandura, 1995; Schunk & Swartz, 1993), may have had the most influence on students' self-efficacy in this study. In a collaborative environment of the classroom or clinical area, students had more opportunities to perform collaborative learning behaviors.

According to Bandura's theory of self-efficacy, this would have raised their self-efficacy for collaborative learning. Bandura (1988) contends that repeated successes raise self-efficacy, whereas, failures may lower it. If students become assured of their successes through repeated successful performances, they may be able to manage setbacks and failures without being adversely affected by them (Bandura, 1988). In a collaborative teaching and learning environment, failures are considered to serve as a feedback device to direct future positive learning (Conti, 1985). Students in this study may have interpreted failures as opportunities to grow and learn, ultimately leaving their self-efficacy intact.

A second source of efficacy information is vicarious experience. In classrooms, students acquire much information about their own capabilities through knowledge of how others perform (Schunk, 1985). Seeing teachers and peers perform collaborative behaviors in the context of learning, raises self-efficacy. Observing similar others, however, offers the best basis for comparison. Students, observing peers succeed in collaborative learning behaviors, may have conveyed to them a vicarious sense of efficacy that they too can accomplish the task. Performance accomplishments and vicarious experiences are the two most important sources of self-efficacy information, and this may have held true in this study.

Receiving positive encouragement from teachers and peers may have also influenced students' self-efficacy through persuasion. Being told by the teacher that "you are doing a good job", may increase self-efficacy, but this may be short-lived if the student does not truly believe it or experiences failure shortly afterwards (Bandura, 1977; Schunk, 1985). In a collaborative learning environment where teachers promote a climate in which dialogue and interaction with other students are encouraged, and students' interpersonal skills developed, students may become more confident in using those approaches to learn. A significant relationship for the Climate Building subscale scores and students' self-efficacy implied that they perceived their teachers promoted such an environment. When students experience a positive climate and receive encouragement for their behaviors, they will likely also experience positive physiological responses. Their appraisal of their physiological responses is that they are doing well, that they are self-efficacious with the

behavior. Receiving positive encouragement and experiencing physiological reactions, however, are considered to be weaker sources of information which students may have used in judging their self-efficacy.

For the subscale, Assessing Student Needs, a significant relationship between students' scores on this scale and students' self-efficacy for collaborative learning implied that students perceived that their teachers treated them like adults by finding out what they wanted and needed to know and assisted them in developing short range as well as long-range goals (Conti, 1985). A significant relationship between the Relating to Experience subscale scores and students' self-efficacy for collaborative learning implied that students perceived that their teachers took into account their prior learning experiences, and encouraged them to relate their new learning to experiences (Conti, 1985). By assessing students needs and relating to the experiences that students have, teachers help students identify their own learning needs and strengths. When assessing student needs, teachers focus on what is significant to the student, and by relating to experiences, communicate to students that they have experiences that have relevance and value for the present learning situation. This helps students cognitively appraise their own learning skills, and, thus, to appraise themselves as having skills in relation to that learning event. Additionally, the behaviors, assessing student needs and relating to experience, provide opportunities for teachers to give encouragement to the students, and to reinforce their strengths. Those teacher behaviors contribute to student self-efficacy.

The impact of the sources of efficacy information depends on how the information is cognitively appraised by the individual (Bandura, 1977, 1993; Schunk, 1981, 1984). In this study, students appraised themselves as having high self-efficacy for learning collaboratively. The sources of efficacy information cannot be identified with confidence; however, it seems reasonable to believe that the teachers' collaborative teaching was an important source of efficacy information for the students. This may be explained in relation to the nature of the concept, collaborative learning behavior. Because the nature of collaborative behaviors are associated with interactions that facilitate respect and value the contributions of each participant, it would be logical for students who feel valued in

the learning activity to appraise themselves as confident in collaborative learning.

Hypothesis 2

. The hypothesis that second-year nursing students will have significantly higher self-efficacy scores for collaborative learning than first-year nursing students, was not supported within the framework of Bandura's self-efficacy theory. According to Bandura, learning takes place in situations which include sufficient sources of efficacy information to increase learner self-efficacy. Because a humanistic-educative curriculum lends itself to a collaborative teaching and learning approach, it was assumed that second-year students, having more opportunities to perform collaborative behaviors, would be more self-confident in using this approach. Having spent one year longer in the program, those students would have had more opportunities to see the behavior modeled, receive encouragement from peers and teachers, and associate positive physiological reactions with performance of the collaborative behavior. This was not the case. In fact, the mean scores between first-year and second-year students were similar, and in the top interquartile range, indicating that both groups had a very high sense of self-efficacy for collaborative learning.

It may be suggested by the results of this finding that students may not need a long time to become confident in their ability to learn collaboratively. This can be interpreted as an advantage, since students in this study were self-efficacious in collaborative learning within one year from the start of the program. It is important to consider that the students in the first-year of study are learning many different things about the program. In addition to getting to know their peers and teachers, they are learning about collaborative learning approaches. By the end of first-year, they were familiar with the program and became comfortable using the collaborative approach to learning. Therefore, in the second-year of the program, their self-efficacy was high. Bandura (1982) suggested that efficacy appraisals occur most often when people encounter new task demands, and more cognitive processing should be expected along with instructional information, during a learning endeavor. The concept of collaborative learning, having been learned in first-year, did not require further cognitive processing for students in second-year. Furthermore,

collaborative educational practices may have validated students' sense of efficacy for collaborative learning, by conveying that they were practicing the behavior. This may have helped sustain their motivation and self-efficacy for collaborative learning into the second-year of the program (Schunk, 1985).

There have been no studies to date in which the relationship between collaborative teaching style and collaborative learning style have been examined, using self-efficacy theory. According to the conceptual framework used to guide the study, a relationship was implied between self-efficacy for collaborative learning and sources of collaborative efficacy information. Further testing of Bandura's self-efficacy theory is recommended before sound conclusions can be drawn about the importance of self-efficacy to collaborative teaching and learning.

Hypothesis 3

The hypothesis that second-year nursing students' self-efficacy for collaborative learning in a humanistic-educative curriculum would be significantly higher than that of second-year nursing students in a traditional nursing curriculum, was not supported. It was assumed that, because the nature of the humanistic-educative curriculum lends itself to a collaborative teaching-learning approach, students in this program would have received more sources of efficacy information, and therefore, would be more self-confident. This assumption was based on Bandura's theory of self-efficacy that repeated successes in performing collaborative learning behaviors, raise self-efficacy. Although the humanistic-educative program was thought to include more sources of self-efficacy information, it appears that both programs included sufficient sources of efficacy information to increase self-efficacy for collaborative learning.

An explanation for this finding may be that second-year students having demonstrated some measure of success, are more self-confident regardless of the curriculum that is in place. This may be attributed to their familiarity with the curriculum and trust that the program will be delivered as intended.

A second explanation for this finding may be that in either curriculum, teachers may have used a variety of teaching approaches. There may have been no real differences

in the teaching and learning processes in spite of the espoused philosophies. Bevis (1989) suggested that there exists an illegitimate curriculum that values and teaches such things as caring and compassion. This curriculum exists in the behaviorist curriculum and is often taught openly because teachers feel a moral responsibility to their students to recognize things beyond the explicit. Therefore, teachers in a traditional environment may have used collaborative approaches to teaching and learning. On the other hand, teachers in a humanistic-educative curriculum may have utilized more traditional approaches to facilitate learning.

To explore further whether there were differences in the teaching approaches used by teachers in spite of espoused philosophies, further analysis was conducted. The mean SPALS scores of second-year nursing students in the traditional program were compared to those of second-year students in the humanistic-educative curriculum. A significant difference was found between the students' perceptions of their teachers collaborative teaching style. Students in the traditional program perceived their teachers to be less collaborative in teaching style than did students in the humanistic-educative curriculum. Since the self-efficacy scores between traditional students and humanistic-educative were not significantly different, it may be concluded that teachers' collaborative teaching style is not the only way that students become self-efficacious in collaborative learning. Students receive efficacy information from other sources. There is support for this in students' comments to the first open-ended question, that asked students to identify what factors contributed to their self-efficacy over the past year. Forty-eight percent of the responses were grouped into a category labeled "Working with Peers". Self-efficacy for collaborative learning may have occurred through performing collaborative learning behaviors in group work, seeing peers model the behavior, and from the encouragement received from peers.

Second-year students in the traditional curriculum may have also developed self-efficacy for collaborative learning through their clinical experiences. During clinical learning experiences, students rely on each other, no matter what the curriculum type, because they want to help one another get through the experience. They also attend post-

clinical conferences, which may involve opportunities for group work, and learning to collaborate with staff. The nature of nursing clinical education, and nursing practice lends itself to collaborative learning, although the program may not be identified as using a humanistic-educative approach. When "traditional students" were asked if they were more confident in collaborative learning than at the beginning of the nursing program 65 % said "yes", and the two most frequently cited comments for feeling more confident were increased knowledge and experience. In contrast, students in the humanistic-educative curriculum attributed their increased self-confidence to increased comfort in class, and group work. It may be that collaborative work is an inherent part of all nursing curricula.

Research Question 1

A modest correlation was found between first-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style. This supports Bandura's self-efficacy theory and suggests that students receive efficacy information from their learning environment. Additionally, a significant relationship was found between the Assessing Student Needs subscale and their self-efficacy in using collaboration as a learning style. According to Conti (1985), this implies that students felt they were being treated as adults; their teachers were finding out what it is they needed and wanted to know. The teacher assisted them in developing short-range as well as long-range goals. When assessing students' needs, the teacher focuses on what is significant to them, helping identify goals that are realistic. This assists students in identifying their learning needs and strengths. As students cognitively appraise their own learning skills, they appraise themselves as having some skills in relation to that goal. By cognitively appraising themselves as being able to accomplish the goal, their confidence in ability to accomplish those goals is increased. Teacher behaviors, such as assessing student needs, contribute to students' self-efficacy.

Although the correlations between the students' perceptions of teachers' collaborative teaching style and their self-efficacy for collaborative learning were modest, students' efficacy at the end of first-year was high, indicating that they received efficacy information from sources other than from their teacher. When correlations were calculated

between first-year students' self-efficacy for collaborative learning and their previous collaborative learning, there were no significant correlations. This suggests that students developed efficacy for collaborative learning during the first-year of the program. Since students became self-efficacious during the first year, and only a modest correlation was related to their teacher, then it can be concluded that students received efficacy information from other sources.

An explanation for this finding may be that the SPALS questionnaire did not sufficiently assess students' perceptions of significant aspects of collaborative teaching. As already mentioned, in response to the first open-ended question, where students were asked to identify what contributed to their self-efficacy over the past year, 48 % of the responses were grouped into the category "Working with Peers". Working in groups is a strategy which is used by a teacher who implements a collaborative teaching approach. Although students did not directly refer to their perceptions of their teachers as contributing to their self-efficacy, it may be implied that a teachers' collaborative teaching style promoted a collaborative learning environment, particularly working in groups. It would then be logical to assume that students' self-efficacy was ultimately related to teachers' collaborative teaching style. While the SPALS scale measured students' perceptions it may not have measured all the important behaviors.

Research Question 2

A significant relationship was found between second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style, supporting Bandura's theory of self-efficacy. A significant relationship was also found between students' self-efficacy for collaborative learning and their subscale scores of Relating to Experience, Assessing Student Needs, and Climate Building.

For the subscale, Assessing Student Needs, the finding was also congruent with findings from students in the first-year of the program. A significant relationship between the Relating to Experience subscale scores and Climate Building subscale scores and students' self-efficacy for collaborative learning was found only with the second-year

students, and was discussed as part of the findings for hypothesis one. By implementing those behaviors, teachers create opportunities for themselves to provide encouragement to students, and to reinforce their strengths. Those teacher behaviors contribute to student self-efficacy.

Additional analysis was conducted, and the Fisher Z transformation test used to compare the correlation coefficients between first-year and second-year students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style. The second-year correlation value for the Climate Building subscale and students' self-efficacy for collaborative learning was significantly stronger. An explanation for this finding may be that in second year, students would have had more experiences with a collaborative climate in their teaching and learning environment. This allowed them to have a greater understanding of the elements that comprise climate building, and to be more confident in using the behavior in their learning. Both trust and respect are essential elements to the promotion of climate building, and are earned over time (Alpert, Goldman, Kilcoy & Pike, 1992). Development of trust and respect requires that individuals must get to know one another. By the second semester of second-year, students may have developed a greater trust and respect with their teachers and peers, and learned about climate building while working collaboratively. Because they had more opportunities to experience it, second-year students more easily recognized it, were more comfortable with it, and, thus, were more confident using it. Therefore, their perceptions of their teacher as creating such a climate and their self-efficacy for collaborative learning would be stronger than that of first-year students. This is congruent with Bandura's theory of self-efficacy, that by having had more experiences with the behavior, second-year students' correlation value for the Climate Building subscale and their self-efficacy for collaborative learning would be significantly stronger than that of first-year students.

Research Question 3

There were no significant relationships between the selected demographics of age, sex, marital status, previous formal education and students' self-efficacy. A significant

relationship was found between previous collaborative experience and students' self-efficacy. These relationships are discussed.

There was a significant relationship between previous collaborative experience and students' self-efficacy. Second-year students reported significantly higher self-efficacy related to previous collaborative experience ($r = .29$, $p < .05$). No significant relationship was found between first-year students' previous collaborative experience and their self-efficacy. An explanation for why only second-year students related previous collaborative experience to self-efficacy may be their difficulty in differentiating between collaborative learning experiences before the start of the program, one and a half-years previously, and experiences within the program. First-year students may have had a better recall of how they felt since the start of the program, seven months earlier.

Another explanation for this finding may be that the PCLS, may not have adequately measured students' previous collaborative learning experiences. It does not seem logical that the first-year and second-year students would have significantly different collaborative learning experiences prior to the nursing program.

Research Question 4

The relationship between teachers' perceptions of their collaborative teaching style, was significantly greater than students' perceptions of teachers' collaborative teaching style. Teachers perceived themselves to have a collaborative teaching style. The mean score (M =159.9) of teachers was in the upper half of the TPALS scale, and above the average mean score of 146 for the PALS scale (Conti, 1985). An explanation for this finding may be that teachers who facilitate learning in a humanistic-educative curriculum use collaborative approaches in their teaching. Perceptions of their teaching style would then be congruent with a collaborative teaching approach. Banbura (1993) contends that the task of creating environments conducive to learning rests heavily on the self-efficacy of teachers. Classroom atmospheres are partially determined by teachers' beliefs in their instructional efficacy. In this study, teachers' perceptions of themselves in using a collaborative teaching approach were high. This may suggest that their self-efficacy for collaborative teaching was also high.

Teachers' perceptions of their collaborative teaching style (M =159.9), were significantly greater than students' perceptions (M = 128.5) of teachers' collaborative teaching style. Although teachers perceived themselves as using collaborative teaching approaches, their perceptions were not congruent with how their students perceived them. An explanation may be that, because the SPALS scale was designed for use with teachers, and adapted for students, it may not have adequately measured students' perceptions of teachers' collaborative teaching style. Teachers' and students' understanding of the concept may have been different, and students may have interpreted the questionnaire differently than did teachers.

In exploring further the students' perceptions of teachers' collaborative teaching style, the perceptions of the first-year and second-year students in the humanistic-educative program were compared. There was no significant difference in the mean scores between first-year (M = 127.9) and second-year student (M = 129.0). A significant difference, however, was found when the mean scores of the SPALS scores of second-year students in the traditional curriculum (M = 114, SD = 20.9) were compared to those of second-year students (M = 129, SD = 15.5; t [1,122] = 4.6, p = .000) in the humanistic-educative curriculum. Students in the humanistic-educative curriculum perceived their teachers to be more collaborative in teaching style than did those students in the traditional program. This suggests that teachers in the humanistic-educative curriculum may have been performing more collaborative behaviors than teachers in the traditional curriculum. Also, students in the humanistic-educative curriculum may have received more explicit information about collaboration, so that they recognized it.

Since students' perceptions of teachers' collaborative teaching style are related to students' self-efficacy for collaborative learning, then students' perceptions of teachers should be congruent with teachers' perceptions of themselves. Teachers need to recognize that they are a source of efficacy information for students, and that their own behaviors may influence students' perceptions. Self-efficacy is an important variable in educational settings and can influence student learning (Schunk, 1989), thus, teachers must keep promoting students' integration and validation of efficacy information.

Open-Ended Questions

Responses to Open-Ended Question One

Student responses to the question "What has contributed to your self-efficacy in collaborative learning over the past year?" should be considered by teachers as they plan and structure collaborative learning activities for their students. The category, "working with peers", consisted of the largest category of student comments (48.8 %). Teachers need be aware that students develop self-confidence for collaborative learning while working in groups. Collaborative learning involves much more than randomly placing students in small discussion groups. Students need to be first taught the fundamentals of successful group collaboration (Cinelli, Symons, Bechtel & Rose-Colley, 1994). Educators should structure group activities where students are encouraged to value, respect and support one another. First-year students commented most frequently that "feeling valued and respected" and "group work" contributed to their self-confidence for collaborative learning. Since students at the end of their first-year were self-efficacious for collaborative learning, teachers should consider the factors to which students attributed to self-confidence, so they can promote students' integration of efficacy information. The most frequently mentioned comment by second-year students in both programs was that "experience" contributed to their self-efficacy for collaborative learning. This supports Bandura's contention that successfully performing the behavior has the most influence on self-efficacy. Teachers need to provide students with opportunities to perform collaborative learning behaviors.

Thirty-one percent of the responses included a teacher-related comment. Students felt that their teachers contributed to their self-efficacy for collaborative learning by providing them with encouragement and positive feedback, by being supportive, and through their teachers' interactions with them. Teachers need to be aware that their behaviors may influence students perceptions, and that they are a strong source of efficacy information for students. Since educational practices may validate a students' sense of self-efficacy by conveying to students that they are acquiring skills and knowledge which develops self-efficacy skills (Schunk, 1984), teachers' behaviors need to be congruent with

desired student behaviors.

Responses to Open-Ended Question 2

When students were asked if they were currently more confident in using collaboration in their learning than they were at the beginning of the nursing program, 71.8 % stated that they were more confident. Fewer traditional students (65 %) were more confident than either students in first-year (77.5%) or second-year (75 %) of the humanistic-educative curriculum. The most frequently mentioned comment was students' increased comfort in class, also cited by first-year students as the most important contributor to their self-confidence.

Group work, the second most frequently mentioned response, was also mentioned most often by second-year students in the humanistic-educative curriculum. However, it was not mentioned by students in the traditional curriculum, as contributing to their self-confidence in collaborative learning. An explanation may be that teachers who facilitate learning in the humanistic-educative curriculum use collaborative approaches in their teaching. Working in groups is a strategy which is used by teachers who implement a collaborative teaching approach. Increased knowledge was the third most frequently mentioned comment, and the most frequently mentioned comment made by students in the traditional curriculum. An explanation for this may be that in a traditional curriculum, teachers may not have utilized group work as a learning strategy. Because of the behavioral orientation of the curriculum (Bevis, 1989), students may have translated their increased knowledge and experience, perhaps attributed to the clinical setting, to their self-efficacy for collaborative learning. Only students in the traditional curriculum stated that experience contributed to their confidence since the start of the nursing program.

Conclusions of the Study

The findings in this study add to the self-efficacy and collaborative learning literature and provide a basis for further research. Valuable data-based information was gained about collaborative teaching and learning and students' self-efficacy. It can also be concluded that the results of the study provided support for Bandura's theory of self-efficacy.

Students' self-efficacy for collaborative learning was positively related to their perceptions of teachers' collaborative teaching style. This held true for both the first-year and second-year students. Additionally, first-year students' self-efficacy for collaborative learning was positively related to their perceptions of teachers' collaborative teaching style for the Assessing Student Needs subscale. Second-year students' self-efficacy for collaborative learning was positively related to their perceptions of teachers' collaborative teaching style for Assessing Student Needs, Relating to Experience, and Climate Building subscales. Finally, second-year students' perceptions of their teachers' collaborative teaching style and their self-efficacy in using collaboration as a learning style was significantly stronger when compared to first-year students for the Climate Building subscale.

For second-year students in both kinds of programs, a significant relationship was found between previous collaborative learning and self-efficacy for collaborative learning. Although this finding was significant, it needs to be interpreted with caution.

Teachers' perceptions of their collaborative teaching style were significantly greater than students' perceptions of teachers' collaborative teaching style, although students in the humanistic-educative curriculum perceived their teachers to be more collaborative in teaching style than did those students in the traditional program. Since students' perceptions of teachers' collaborative teaching style are related to students' self-efficacy for collaborative learning, teachers need to recognize that they are a source of efficacy information for students and that their own behaviors may influence students' perceptions. Thus, teachers must keep encouraging students' integration of the efficacy information.

Limitations

There were several limitations in this study. The first limitation relates to the design, and type of sample. Pre-program data were not collected, and therefore, changes in self-efficacy could not be assessed. Data collected at the beginning and end of both years of the program would allow for stronger interpretation about the influence of the two programs on students' self-efficacy for collaborative learning. Testing the same

groups of students over two years would add to the strength of the design. Additionally, because of the use of a convenience sample, generalizations can not be made beyond the population studied.

Variations in teaching styles presented a second limitation. Teaching styles vary within the same, and across different types of curricula. Teachers may implement collaborative or traditional teaching styles, no matter what the curriculum type. Although a collaborative approach to teaching would be expected by teachers who facilitate in a humanistic-educative curriculum, this approach may not be used. The author made an assumption, which may not be true, that the teaching styles of faculty at the two colleges would be congruent with the philosophical bases of the curricula. Although teaching styles for teachers were assessed in the humanistic-educative program, to determine if the teaching style was congruent with the curriculum philosophy, results were limited by the small sample size of teachers. Traditional curriculum teachers' style was not assessed.

A third limitation is related to the reliability of second-year students' responses to both the Previous Collaborative Learning Scale (PCLS), and the second open-ended question. Second-year students were asked to recall information prior to their entry into the nursing program. Since that time frame represents eighteen months, they may not have clearly differentiated between the time spent in the nursing program, and time prior to the program.

A fourth limitation may be that while the PALS scale was adapted for the students, the SPALS was not assessed for use with the students. Therefore, it may not have adequately measured students' perceptions of teachers collaborative teaching style. Testing of the instrument is recommended prior to future use. Also, in relation to the reliability of the scale, the internal consistency reliability was acceptable; however, three of the seven subscales were not reliable.

All data were self-reported. Performance in collaborative teaching and learning was not observed, and conclusions cannot be drawn about this.

A final limitation is related to the field of study. There is paucity of research about collaborative teaching and learning, and about their relationship to self-efficacy theory.

Bandura's theory of self-efficacy was used as the framework for the study and assumptions were made based on the theory. The assumptions need to be tested further to demonstrate the usefulness of the theory in studying collaborative teaching and learning approaches.

Implications

The results of the study have implications for nursing. The implications are discussed in relation to nursing education, nursing administration, nursing practice, and nursing research.

Nursing Education

Students' perceptions of teachers' collaborative teaching style positively related to students' self-efficacy for collaborative learning, no matter what the curriculum type, or, year of student in the program. Educators need to provide students with as many sources of efficacy information as possible about collaborative learning, by encouraging them, modeling for them, and providing information in a way so that students can cognitively appraise themselves as confident in performing the behavior. Nursing educators need to be aware that students' self-efficacy for collaborative learning can be similar in spite of the espoused curriculum approach.

During the first-year of the nursing program, students had already developed high self-efficacy for collaborative learning. Nurse educators must consider this when planning educational sessions for students. Since the first-year students rated themselves highly in self-efficacy, teachers need not be hesitant about implementing the approach.

Educators must be cognizant of the fact that student-graduates who are self-efficacious in collaborative learning, may feel comfortable using collaboration in their workplace. This may have implications for the kinds of approaches agencies are using for inservice education, and professional development.

Students enrolled in the humanistic-educative curriculum perceived their teachers to be more collaborative in teaching style than did those students in the traditional program. However, teachers' perceived themselves to be more collaborative than their students' perceived them to be. Educators need to recognize that their own behaviors may

influence students' perceptions and that they are a source of efficacy information for students. If collaborative learning is a behavior that nursing educators want to promote, then they need to ensure that their behaviors are perceived by the students as congruent with the philosophy. Nursing educators can encourage students' integration of the efficacy information by serving as sources of vicarious information, facilitating opportunities for performance, and providing explicit persuasory information (Tresolini & Stritter, 1992). Only when specific collaborative education practices become a matter of standard practice will students' self-efficacy for using collaborative approaches be widespread, and the benefits of this approach realized.

Administration

Nursing administrators are in an ideal position to affect change within their respective institutions. They need to foster work environments that will support collaborative approaches to ongoing learning. Administrators need to recognize that students who have experienced collaborative approaches in their educational programs may be desirous of collaborative approaches in other aspects of their work environment.

Practice

For student-graduates, self-efficacy in collaborative learning behaviors may translate to self-efficacy in other kinds of collaboration. For example, after working with teachers as relative peers, they may expect the same of managers. Also, while implementing collaborative behaviors, student-graduates may use difference approaches to provision of client care, and when working with a multi-disciplinary team. Graduates for whom partnership building is the norm will change the nature of health care teams.

Nursing educators need to aware of their teaching style in order to make decisions for future practice and staff development. Completing an instrument such as PALS, can be an important step in the professional development of the teacher. Additionally, feedback from students, feedback from colleagues, and self-observation by videotape, are other suggested ways for educators to assess and modify their practice, thus, closing the gap between perceived and actual collaborative practice behaviors.

Research

This study gives direction for future research. For example, in studies of self-efficacy for collaborative learning, a pre-test, post-test design may be implemented, using the same group of students in their first-year and second-year of the program. This type of design would allow for comparison of the self-efficacy scores of the same student in both years. A pre-test and post-test would be administered at the beginning, and at the end of each year. A pre-test would serve as a baseline measure of self-efficacy for collaborative learning and would allow more confidence in determining the influence of the curriculum.

In a future study, it may be beneficial to observe by video-tape or in-class observation the collaborative teaching and learning behaviors of the teachers and the students. This would be helpful in identifying the collaborative teaching and learning behaviors that are occurring so that they can be documented and their relationship to self-efficacy assessed.

Furthermore, the traditional teachers' perceptions of their collaborative teaching style could be measured to determine whether the teachers in a traditional curriculum perceive themselves to use collaborative or traditional approaches in their teaching. This would allow a comparison between the traditional students' perceptions of teachers collaborative teaching style and teachers' perceptions of collaborative teaching style.

Considering that there is a significant correlation, although modest, between students' perceptions of teachers' collaborative teaching style and their self-efficacy for collaborative learning, further research should be conducted to examine collaborative teaching and learning in relation to self-efficacy theory. Given the purported benefits of collaborative approaches, it would be of benefit to develop the knowledge base in this area.

Summary of the Study

The purpose of the study was to examine the relationships between first-year and second-year nursing students' perceptions of their teachers' collaborative teaching style and their self-efficacy for collaborative learning. Bandura's theory of self-efficacy was used as a framework to guide the study.

Subjects were 174 nursing students, 49 first-year and 56 second-year students, enrolled in a humanistic-educative curriculum, and 69 second-year students enrolled in a traditional curriculum. Students completed the Student Principles of Adult Learning Scale to measure their perceptions of their teachers' collaborative teaching style, and the Self-Efficacy for Collaborative Learning Questionnaire to measure their self-efficacy for collaborative learning. Eight teachers from the humanistic-educative curriculum, completed the Teacher Principles of Adult Learning Questionnaire to measure their perceptions of their collaborative teaching style.

This study provided support for Bandura's theory of self-efficacy. Nursing students' perceptions of teachers' collaborative teaching style were positively related to their self-efficacy for collaborative learning. All students reported high self-efficacy, regardless of their year in the program, or the curriculum in which they were enrolled. Teachers' perceptions of their collaborative teaching style were significantly greater than students' perceptions of teachers' collaborative teaching style. Second-year students enrolled in the humanistic-educative curriculum perceived their teachers to be significantly more collaborative in teaching style than did second-year students in the traditional curriculum.

Although generalization of the results of this study is limited by the convenience sample, insights were gained into collaborative teaching and learning and self-efficacy. The implications of the findings are primarily related to nursing education. Teachers' need to recognize that they are a source of efficacy information for students, and that their own behaviors may influence students' perceptions. The data-based information will add to the literature, and provide direction for future research. Further testing of Bandura's self-efficacy theory is recommended before solid conclusions can be drawn about the relationship of self-efficacy and collaborative teaching and learning.

Appendix A

Questionnaire 2

Self-efficacy for Collaborative Learning Scale

Directions: The purpose of this scale is to determine how confident you feel in performing the following behaviours in your current learning environment. For each statement circle the number that indicates your level of confidence in performing that behaviour. There are no right or wrong answers. Please answer each item as best you can.

When learning new things **with your classmates/clinical group** in your nursing program, how confident are you in your ability to learn by:	**Rarely Confident**	**Sometimes**	**Often**	**Nearly Always Confident**
1. Freely sharing ideas with one another.	**1**	**2**	**3**	**4**
2. Acknowledging one another's competencies.	**1**	**2**	**3**	**4**
3. Supporting one another as classmates/clinical group.	**1**	**2**	**3**	**4**
4. Working as classmates/clinical group.	**1**	**2**	**3**	**4**
5. Being committed to working together as a class/clinical group.	**1**	**2**	**3**	**4**
6. Trusting one another.	**1**	**2**	**3**	**4**
7. Sharing expertise and talents.	**1**	**2**	**3**	**4**
8. Working as "equals" or "partners" for accomplishment of the same goals.	**1**	**2**	**3**	**4**

	Rarely Confident	Sometimes	Often	Nearly Always Confident
9. Working together as a team.	1	2	3	4
10. Feeling that my opinions are listened to.	1	2	3	4
11. Feeling that my input is truly valued.	1	2	3	4
12. Working together as classmates/clinical group.	1	2	3	4
13. Having a feeling of mutual regard and respect for one another.	1	2	3	4
14. Trying to resolve any conflicts which arise to our mutual satisfaction.	1	2	3	4
15. Actively participating in the relationship as classmates/clinical group in order to meet our learning goals.	1	2	3	4
16. Sharing information openly.	1	2	3	4
17. Problem solving together.	1	2	3	4
18. Recognizing the need to have a sense of "give and take".	1	2	3	4
19. Recognizing our interdependence with one another in order to meet our goals.	1	2	3	4
20. Committing myself as part of my class/clinical group to the process of working together.	1	2	3	4

Appendix B

Questionnaire 1

Student Principles of Adult Learning Scale

Directions: The following survey contains several things that your teacher might do in the classroom/clinical area. For each item please respond to the way in which **the teachers with whom you worked most closely in the current academic year** practice the action described in the item. Your choices are: Always, Almost Always, Often, Seldom, Almost Never, and Never. Circle 0 if you teacher always does the event; circle number 1 if your teacher almost always does the event; circle number 2 if your teacher often does the event; circle number 3 if your teacher seldom does the event; circle number 4 if your teacher almost never does the event; and circle number 5 if your teacher never does the event. If the item does not apply to your teacher, circle number 5 for never.

Always	Almost Always	Often	Seldom	Almost Never	Never
0	1	2	3	4	5

1. My teacher allows us to participate in developing the criteria for evaluating our performance in class/clinical area.	0	1	2	3	4	5
2. My teacher uses disciplinary action when it is needed.	0	1	2	3	4	5
3. My teacher allows older students more time to complete assignments when they need it.	0	1	2	3	4	5
4. My teacher encourages us to adopt accepted middle class values.	0	1	2	3	4	5

5. My teacher helps us diagnose the gaps between our goals and our present level of performance.	0	1	2	3	4	5
6. My teacher provides us with knowledge rather than serving as a resource person.	0	1	2	3	4	5
7. My teacher sticks with the instructional objectives that we receive at the beginning of the program.	0	1	2	3	4	5
8. My teacher participates in informal counselling with us.	0	1	2	3	4	5
9. My teacher uses lecturing as the best method for presenting the subject material to us.	0	1	2	3	4	5
10. My teacher arranges the classroom so that it is easy for us to interact.	0	1	2	3	4	5
11. My teacher determines the educational objectives for each one of us.	0	1	2	3	4	5
12. My teacher plans units which differ as widely as possible from our socio-economic backgrounds.	0	1	2	3	4	5
13. My teacher tries to motivate us by confronting us in the presence of our classmates during group discussions.	0	1	2	3	4	5
14. My teacher plans learning episodes taking into account our prior experiences.	0	1	2	3	4	5
15. My teacher allows us to make decisions about the topics that will be covered in class/clinical area.	0	1	2	3	4	5

16. My teacher uses one basic teaching method assuming that most adults have a similar style of learning.	0	1	2	3	4	5
17. My teacher uses different techniques depending on what the student is being taught.	0	1	2	3	4	5
18. My teacher encourages dialogue among us.	0	1	2	3	4	5
19. My teacher uses written tests to assess the degree of our academic growth rather than to indicate new directions for learning.	0	1	2	3	4	5
20. My teacher utilizes the competencies that most adult students already possess to achieve educational objectives.	0	1	2	3	4	5
21. My teacher uses what history has proven that adults need to learn as the chief criteria for planning learning episodes.	0	1	2	3	4	5
22. My teacher accepts errors as a natural part of the learning process.	0	1	2	3	4	5
23. My teacher has individual conferences to help us identify our educational needs.	0	1	2	3	4	5
24. My teacher lets us work at our own rate regardless of the amount of time it takes to learn a new concept.	0	1	2	3	4	5
25. My teacher helps me develop short-range as well as long-range objectives.	0	1	2	3	4	5
26. My teacher maintains a well disciplined class/clinical group to reduce interferences to learning.	0	1	2	3	4	5

27. My teacher avoids class/clinical discussion of controversial subjects that involve value judgments.	0	1	2	3	4	5
28. My teacher allows us to take periodic breaks during class/clinical area.	0	1	2	3	4	5
29. My teacher uses methods that foster quiet, productive desk work.	0	1	2	3	4	5
30. My teacher uses tests as the chief method of evaluating us.	0	1	2	3	4	5
31. My teacher plans activities that encourage our growth from dependence on others to greater independence.	0	1	2	3	4	5
32. My teacher gears instructional objectives to match our individual abilities and needs.	0	1	2	3	4	5
33. My teacher avoids issues that relate to our self concept.	0	1	2	3	4	5
34. My teacher encourages us to ask questions about the nature of our society.	0	1	2	3	4	5
35. My teacher allows our motives for participating in our continuing education to be a major determinant when planning learning objectives.	0	1	2	3	4	5
36. My teacher has us identify our own problems that need to be solved.	0	1	2	3	4	5
37. My teacher gives all of us the same assignment on a given topic.	0	1	2	3	4	5
38. My teacher uses materials that were originally designed for students in elementary and secondary schools.	0	1	2	3	4	5

39. My teacher encourages adult learning episodes according to the problems that we encounter in everyday life.	**0**	**1**	**2**	**3**	**4**	**5**
40. My teacher measures our long term educational growth by comparing our total achievement in class to an expected performance as measured by national norms from standardized tests.	**0**	**1**	**2**	**3**	**4**	**5**
41. My teacher encourages competition among us.	**0**	**1**	**2**	**3**	**4**	**5**
42. My teacher uses different materials with different students.	**0**	**1**	**2**	**3**	**4**	**5**
43. My teacher helps us relate new learning to our prior experiences.	**0**	**1**	**2**	**3**	**4**	**5**
44. My teacher teaches units about problems of everyday living.	**0**	**1**	**2**	**3**	**4**	**5**

Appendix C

Teacher Principles of Adult Learning Scale

Directions: The following survey contains several things that a teacher of adults might do in a classroom/clinical area. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you most frequently practice the action described in the item. Your choices are: Always, Almost Always, Often, Seldom, Almost Never, and Never. Circle 0 if you always do the event; circle number 1 if you almost always do the event; circle number 2 if you often do the event; circle number 3 if you seldom do the event; circle number 4 if you almost never do the event; and circle number 5 if you never do the event. If the item does not apply to you, circle number 5 for never.

Always	Almost Always	Often	Seldom	Almost Never	Never
0	1	2	3	4	5

1. I allow students to participate in developing the criteria for evaluating our performance in class/clinical area.	0	1	2	3	4	5
2. I use disciplinary action when it is needed.	0	1	2	3	4	5
3. I allow older students more time to complete assignments when they need it.	0	1	2	3	4	5
4. I encourage students to adopt accepted middle class values.	0	1	2	3	4	5
5. I help students diagnose the gaps between their goals and their present level of performance.	0	1	2	3	4	5

6. I provide students with knowledge rather than serving as a resource person.	0	1	2	3	4	5
7. I stick to the instructional objectives that I write at the beginning of the program.	0	1	2	3	4	5
8. I participate in the informal counselling of students.	0	1	2	3	4	5
9. I use lecturing as the best method for presenting my subject material to adult students.	0	1	2	3	4	5
10. I arrange the classroom so that it is easy for students to interact.	0	1	2	3	4	5
11. I determine the educational objectives for each of my students.	0	1	2	3	4	5
12. I plan units which differ as widely as possible from my students' socio-economic backgrounds.	0	1	2	3	4	5
13. I get a student to motivate himself/herself by confronting him/her in the presence of peers during group discussions.	0	1	2	3	4	5
14. I plan learning episodes to take into account my students' prior experiences.	0	1	2	3	4	5
15. I allow students to participate in making decisions about the topics that will be covered in class/clinical area.	0	1	2	3	4	5
16. I use one basic teaching method because I have found that most adults have a similar style of learning.	0	1	2	3	4	5

17. I use different techniques depending on what the student is being taught.	0	1	2	3	4	5
18. I encourage dialogue among my students.	0	1	2	3	4	5
19. I use written tests to assess the degree of our academic growth rather than to indicate new directions for learning.	0	1	2	3	4	5
20. I utilize the many competencies that most adult students already possess to achieve educational objectives.	0	1	2	3	4	5
21. I use what history has proven that adults need to learn as the chief criteria for planning learning episodes.	0	1	2	3	4	5
22. I accept errors as a natural part of the learning process.	0	1	2	3	4	5
23. I have individual conferences to help students identify their educational needs.	0	1	2	3	4	5
24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.	0	1	2	3	4	5
25. I help my students develop short-range as well as long-range objectives.	0	1	2	3	4	5
26. I maintain a well disciplined class/clinical group to reduce interferences to learning.	0	1	2	3	4	5
27. I avoid class/clinical discussion of controversial subjects that involve value judgments.	0	1	2	3	4	5

28. I allow my students to take periodic breaks during class and in clinical setting.	0	1	2	3	4	5
29. I use methods that foster quiet, productive desk work.	0	1	2	3	4	5
30. I use tests as the chief method of evaluating students.	0	1	2	3	4	5
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.	0	1	2	3	4	5
32. I gear instructional objectives to match the individual abilities and needs of the students.	0	1	2	3	4	5
33. I avoid issues that relate to the student's concept of himself/herself.	0	1	2	3	4	5
34. I encourage my students to ask questions about the nature of our society.	0	1	2	3	4	5
35. I allow a student's motives for participating in continuing education to be a major determinant when planning learning objectives.	0	1	2	3	4	5
36. I have my students identify their own problems that need to be solved.	0	1	2	3	4	5
37. I give all students in my class the same assignment on a given topic.	0	1	2	3	4	5
38. I use materials that were originally designed for students in elementary and secondary schools.	0	1	2	3	4	5

39. I organize adult learning episodes according to the problems that my students encounter in everyday life.	**0**	**1**	**2**	**3**	**4**	**5**
40. I measure a student's long term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.	**0**	**1**	**2**	**3**	**4**	**5**
41. I encourage competition among my students.	**0**	**1**	**2**	**3**	**4**	**5**
42. I use different materials with different students.	**0**	**1**	**2**	**3**	**4**	**5**
43. I help students relate new learning to their prior experiences.	**0**	**1**	**2**	**3**	**4**	**5**
44. I teach units about problems of everyday living.	**0**	**1**	**2**	**3**	**4**	**5**

Appendix D

Student Demographic Questionnaire

Background Data: Please check the information as indicated.

Age to your nearest birthday: 1.___Under 18 3.___ 26-30 5.___ 36-40 7.___ Over 50
2.___ 18-25 4.___ 31-35 6.___ 41-50

Highest level of education ___ Secondary ___ Post Secondary ___Undergraduate degree
completed: ___ Graduate degree ___ Doctorate ___ Other

Marital status: ___ Single ___ Married ___ Separated/Divorced ___ Widowed

Gender: ___ Male ___ Female

Prior to your nursing program, have you had experience:

	none	moderate amount			great deal
1. Sharing ideas with classmates.	1	2	3	4	5
2. Problem solving with one another.	1	2	3	4	5
3. Working together as a team.	1	2	3	4	5
4. Sharing expertise and talents.	1	2	3	4	5

Please answer the following questions.

1. What has contributed to your self-confidence in collaborative learning over the past year?

2. Are you currently more confident in using collaboration in your learning than you were at the beginning of the nursing program? Please explain.

Please return the completed questionnaires directly to me or place in the designated locked drop box. Thank you for your participation.

Appendix E

Teacher Demographic Questionnaire

Background Data: Please check the information as indicated.

In what year were you born? _____

(Please record your answer in the space provided.)

Highest level of education completed: ___ Diploma ___ Undergraduate degree ___ Graduate degree ___ Doctorate

Marital status: ___ Single ___ Married ___ Separated/Divorced ___ Widowed

Gender: ___ Male ___ Female

Employment status: ___ Full time ___ Sessional ___ Partial load

How many years of teaching experience do you have? _____

(Please record your answer in the space provided.)

Appendix F

Letter of Permission to Adapt the Principles of Adult Learning Scale

OSU

School of Educational Studies

College of Education
204 Willard
Stillwater, Oklahoma 74078-4045
405-744-6275; Fax 405-744-7758

February 1, 1998

Micki Puksa
P.O. Box 15
Oro, Ontario L0L 2X0

Dear Micki:

It is always exciting to hear of new ways that researchers have found to use the Principles of Adult Learning Scale (PALS). PALS has been published in ERIC and several journals so that researchers like yourself can use it at no cost. Therefore, feel free to use it in the ways you believe are most appropriate; since I am the copyright holder for PALS, you may consider this letter as your formal permission to reproduce PALS. Enclosed are some materials that you may find useful for your study. If you need any technical assistance while working on your study, call me at either 405 744-9192 (office) or 405 624-3263 (home and fax). Let me know what you find. Good luck.

Sincerely yours,

Gary J. Conti

Gary J. Conti
Professor of
Adult Education

Adult Education
Aviation and Space Education
Higher Education
Human Resource Development
Organization and Leadership
Research and Evaluation
Social Foundations
Student Personnel
Technology

Appendix G

Letter of Permission to Adapt the Collaborative Behavior Scale

THE
STICHLER
DESIGN GROUP, INC.

February 2, 1998

Ms. Micki Puksa
P.O. Box 15, Oro
Ontario, Canada LOL 2XO

Re: Collaborative Behavior Scale

Dear Micki:

Thank you very much for your inquiry requesting permission to utilize CBS as a research instrument in your study of the effects of implementation of Primary Nursing. I am very pleased that you would like to utilize the instrument, and certainly you have my permission to use this study, and to make minor word changes to meet your study's parameters, so long as the following criteria are met:

1. References are made to the author of the instrument in the body of the text and in the reference list.

2. The statistical findings of your study are forwarded to me upon completion of the study so that I can use it for further reliability testing of the CBS instrument.

Please note that if even one word is changed in the title, directions, or items of the instrument, it may change the psychometic properties of the instrument.

As you know, the Collaborative Behavior Scale has two parts. Part A measures the collaboration between the nurse and the physician, and Part B measures the degree of collaboration between the nurse and the manager. Essentially the tools are the same, but some of the wording is slightly different for each of the items. The attached page describes the psychometric properties of the instrument as described in my doctoral dissertation. References to the instrument should be: Stichler, J.F. (1990). The effects of collaboration, organizational climate, and job stress on job satisfaction and anticipated turnover in nursing. Ann Arbor, MI: University Microfilms, International.

The CBS has also been published in "Shared Governance Implementation Manual" edited by Dr. Tim Porter O'Grady and published by Mosby Year Book (1992). I've enclosed a copy of the instrument as it appears in this manual.

I hope that you will keep me updated as to the progress of the study, and please feel free to let me know if there is any other way that I can assist in your study. I'd be happy to do whatever I can to ensure the success of your study.

Best Regards,

Jaynelle F. Stichler

Jaynelle F. Stichler, DNSc, RN, CNAA

JFS:jw

Enclosures

Appendix H

Letter of permission from the Ethical Review Board

The UNIVERSITY *of* WESTERN ONTARIO

Vice-President (Research)
Ethics Review Board Dental Sciences Building

REVIEW BOARD FOR HEALTH SCIENCES RESEARCH INVOLVING HUMAN SUBJECTS

1997-98 CERTIFICATION OF APPROVAL OF HUMAN RESEARCH

ALL HEALTH SCIENCES RESEARCH INVOLVING HUMAN SUBJECTS AT THE UNIVERSITY OF WESTERN ONTARIO IS CARRIED OUT IN COMPLIANCE WITH THE MEDICAL RESEARCH COUNCIL OF CANADA "GUIDELINES ON RESEARCH INVOLVING HUMAN SUBJECT."

1997-98 REVIEW BOARD MEMBERSHIP

1) Dr. B. Borwein, Assistant Dean-Research - Medicine (Chairman) (Anatomy/Ophthalmology)
2) Ms. S. Hoddinott, Director of Research Services (Epidemiology)
3) Dr. R. Gagnon, St. Joseph's Health Centre Representative (Obstetrics & Gynaecology)
4) Dr. R. McManus, London Health Sciences Centre - Victoria Campus Representative (Endocrinology & Metabolism)
5) Dr. D. Bocking, London Health Sciences Centre - University Campus Representative (Physician - Internal Medicine)
6) Dr. L. Heller, Office of the President Representative (French)
7) Mrs. E. Jones, Office of the President Representative (Community)
8) Ms. S. Fincher-Stoll, Office of the President Representative (Legal)
9) Dr. D. Freeman, Faculty of Medicine & Dentistry Representative (Clinical)
10) Dr. D. Sim, Faculty of Medicine & Dentistry Representative (Basic)(Epidemiology)
11) Dr. M.L. Kavaliers, School of Dentistry Representative (Dentistry-Oral Biology)
12) Dr. H. Laschinger, School of Nursing Representative (Nursing)
13) Faculty of Health Sciences Representative .
14) Ms. M. Lovell, London Clinical Research Association Representative
15) Research Institutes Representative
16) Mrs. R. Yolnicki, Administrative Officer
Alternates are appointed for each member.

THE REVIEW BOARD HAS EXAMINED THE RESEARCH PROJECT ENTITLED:
"Nursing students' self-efficacy for collaborative learning."

REVIEW NO: E6317

AS SUBMITTED BY: Dr. C. Iwasiw - Nursing, Health Sciences Addition

AND CONSIDERS IT TO BE ACCEPTABLE ON ETHICAL GROUNDS FOR RESEARCH INVOLVING HUMAN SUBJECTS UNDER CONDITIONS OF THE UNIVERSITY'S POLICY ON RESEARCH INVOLVING HUMAN SUBJECTS.

APPROVAL DATE: 12 February 1998 (UWO Protocol, Letter of Information & Consent)

AGENCY:

TITLE:

Bessie Borwein, Chairman

c.c. Hospital Administration

London, Ontario • Canada • N6A 5C1 • Telephone: (519) 661-3036 • Fax: (519) 661-3875

Appendix I

Letter of Information For Students

Title of the Study: Nursing Students' Self-efficacy for Collaborative Learning

Researchers: Micki Puksa RN, BScN, MScN student

Dr. Carroll Iwasiw. Acting Director, School of Nursing, UWO

Dear Participant,

"Collaborative learning" involves joint intellectual effort by students or students and teachers together (Smith, & MacGregor, 1991). The collaborative approach promotes a positive atmosphere where the contributions of the parties involved are separate but equal and where good communication, rapport, mutual trust and respect are present (Kirkpatrick et al, 1990). Collaboration promotes effective partnerships between students, faculty and students, faculty, students and organizations. The contributions of each participant are maximized as individuals are encouraged to share their knowledge, skills and abilities with other members of the group (Keenan, 1982; Sheer, 1996; Weiss & Davis, 1985). This results in a quality learning experience for the student and a rewarding experience for the teacher.

I am conducting a research project as part of the requirements for the Master's of Science in Nursing Program at the University of Western Ontario. The purpose of this research project is to examine the relationship between your perceptions of your teachers' collaborative teaching style and how confident you feel in using collaboration as a style of learning.

As a participant in this project you will be asked to complete three questionnaires. Questionnaire 1, the first questionnaire you will complete, will identify your perceptions of your teachers' teaching style. Questionnaire 2, the second questionnaire you will complete, will measure your level of confidence in a particular learning style. The demographic questionnaire, the last questionnaire you will complete, will identify some background information. The questionnaires will take a total of approximately 20-25 minutes to complete.

Taking part in this study is voluntary. Your participation or non-participation will not be known by your teacher and will not influence your grade in the course. You may choose not to answer any question or stop answering questions at any time as you proceed. All the results from this study will be reported as group results, so that no one will be able to identify your answers. I will not be able to identify you by your answers, therefore your choice to respond to these questions, or not, poses no risks to you. The questionnaires may be returned to me directly, or placed in a designated locked drop box. Your return of the questionnaires will indicate your consent to participate. Please do not write your name on the forms. All of your answers will remain anonymous.

If you have any questions about the study, please contact me at (705) 487-3922. My advisor, Dr. Carroll Iwasiw may be reached at the University of Western Ontario, (519) 671-2111. Thank you for your support.

Sincerely,

Micki Puksa

Appendix J

Letter of Information For Teachers

Title of the Study: Nursing Students' Self-efficacy for Collaborative Learning

Researchers: Micki Puksa RN, BScN, MScN student

Dr. Carroll Iwasiw. Acting Director, School of Nursing, UWO

Dear Participant,

"Collaborative learning" involves joint intellectual effort by students or students and teachers together (Smith, & MacGregor, 1991). The collaborative approach promotes a positive atmosphere where the contributions of the parties involved are separate but equal and where good communication, rapport, mutual trust and respect are present (Kirkpatrick et al, 1990). Collaboration promotes effective partnerships between students, faculty and students, faculty, students and organizations. The contributions of each participant are maximized as individuals are encouraged to share their knowledge, skills and abilities with other members of the group (Keenan, 1982; Sheer, 1996; Weiss & Davis, 1985). This results in a quality learning experience for the student and a rewarding experience for the teacher.

I am conducting a research project as part of the requirements for the Master's of Science in Nursing Program at the University of Western Ontario. The purpose of this research project is to examine the relationship between your students' perceptions of your collaborative teaching style and how confident they feel in using collaboration as a style of learning.

As a participant in this project you will be asked to complete two questionnaires. One questionnaire will identify your perceptions of your teaching style. The second questionnaire will identify some background information. The questionnaires will take a total of approximately 20 minutes to complete.

Taking part in this study is voluntary. You may choose not to answer any question or stop

answering questions at any time as you proceed. All the results from this study will be reported as group results, so that no one will be able to identify your answers. I will not be able to identify you by your answers; therefore your choice to respond to these questions, or not, poses no risks to you. The questionnaires may be returned directly to me, or placed in a designated locked box. Your return of the questionnaires will indicate your consent to participate. Please do not write your name on the forms. All of your answers will remain anonymous.

If you have any questions about the study, please contact me at (705) 487-3922. My advisor, Dr. Carroll Iwasiw may be reached at the University of Western Ontario, (519) 671-2111. Thank you for your support.

Sincerely,

Micki Puksa

Appendix K

Title of the Study: Nursing Students' Self-efficacy for Collaborative Learning

Researchers: Micki Puksa RN, BScN, MScN student
Dr. Carroll Iwasiw. Acting Director, School of Nursing, UWO

Nursing Faculty Volunteers Requested

(First and Second Year)

I am conducting a research project as part of the requirements for the Master's of Science in Nursing Program at the University of Western Ontario. The purpose of this research project is to examine the relationship between your students' perceptions of your collaborative teaching style and how confident they feel in using collaboration as a style of learning.

As a participant in this project you will be asked to complete two questionnaires. One questionnaire will identify your perceptions of your teaching style. The second questionnaire will identify some background information. The questionnaires will take a total of approximately 20 minutes to complete.

Taking part in this study is voluntary. All the results from this study will be reported as group results, so that no one will be able to identify your answers. All of your answers will remain anonymous.

For information about the study, please contact Micki Puksa at (705) 487-3922.

Appendix L

Follow up Letter for Teacher Participants

Title of the Study: Nursing Students' Self-efficacy for Collaborative Learning

Researchers: Micki Puksa RN, BScN, MScN student
Dr. Carroll Iwasiw. Acting Director, School of Nursing, UWO

Dear Participant,

In March, 1998 you picked up a package from the nursing program secretary which contained an information letter and two questionnaires related to a nursing research study. The purpose of the research project was to examine the relationship between your students' perceptions of your collaborative teaching style and how confident they feel in using collaboration as a style of learning.

Your answers to the questions are valuable and important to the results of the study. Participation is voluntary, and I understand that you may have chosen not to take part. However, if you are still interested in participating in the study, there is still time to do so.

If you have already responded, I thank you for your time and support. Should you have any questions regarding this study, please do not hesitate to contact me at (705) 487-3922.

Sincerely,

Micki Puksa

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