

THE USE OF DELIBERATIVE DISCUSSION AS A TEACHING STRATEGY TO  
ENHANCE THE CRITICAL THINKING ABILITIES OF  
FRESHMAN NURSING STUDENTS

DISSERTATION

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## ABSTRACT

The ability to critically think is an essential quality needed in today's nurses. Nurse educators are challenged to employ teaching methods that provide nursing students with the opportunity to practice and enhance their critical thinking skills. Deliberative discussion is one such teaching method that invites participants to engage in a shared inquiry regarding public issues. The purpose of this pretest-posttest control group experimental study was to investigate the effects of using the deliberative discussion method teaching strategy to enhance the critical thinking abilities of Freshman Nursing students. All Freshman Nursing students in a baccalaureate nursing program at a small, private university were invited to participate (N = 71) and completed pretest and posttest data were collected on 23 nursing students. Participants were randomly assigned to attend three deliberative discussion sessions over a 13 week period or to the control group. Using the California Critical Thinking Skills Test, the researcher found that there was no difference in critical thinking scores between the deliberative discussion group (n = 7) and the control group (n = 16). The quality and depth of students' critical thinking abilities during the deliberative discussions did not increase from session one to session three. However, there was evidence that critical thinking did occur in two out of the three sessions. Findings have implications for nurse educators to help them develop insight into the usefulness of deliberative discussions as a means to foster critical thinking in nursing

students. Further, future longitudinal research is needed to study changes in critical thinking over longer periods of time using the deliberative discussion method.

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## FIELDS OF STUDY

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## CHAPTER 1

### INTRODUCTION

According to the Pew Health Professions Committee, demonstrating critical thinking is one of the main competencies of health professionals for the 21<sup>st</sup> century (The Center for Health Professions, 1999). Nurses comprise the largest group of health professionals in the United States (US Department of Labor, 2005) and often occupy employment positions providing direct client care encompassed within a dynamic and rapidly changing health care milieu. Nurses are expected to possess and use critical thinking skills in every aspect of their professional practice.

An essential outcome criterion of nursing education programs is to graduate practitioners who can engage in critical thought (American Association of Colleges of Nursing [AACN], 1998; Glen, 1995; Malinski, 2001; National League for Nursing [NLN], 1992; Videback, 1997b). Nurse educators are challenged to employ teaching strategies that facilitate critical thinking at Freshman, Sophomore, Junior, and Senior levels of a nursing program. Since the ability to critically think is an expected competency of today's nurses (Green, 1999), it is imperative that critical thinking skills be fostered and enhanced among learners throughout the nursing curriculum. Thus,

critical thinking does not occur as isolated occurrence and the passage of time is needed to help nurture its growth within the learner.

According to Brookfield (1987), the ability to critically think is a deliberate and active process. For that reason, teaching strategies should also be purposeful toward the promotion of critical thinking. The discussion method is one such teaching strategy that is believed to actively foster critical thinking (Brookfield & Preskill, 1999; Chilcoat & Ligon, 2001; DeYoung, 2003; Kindsvatter, 1990; Walker, 2003). Further, it is the discussion of controversial issues that can encourage critical thinking among learners (Payne & Gainey, 2003). Discussions that evoke feelings of discomfort or conflict within the learners are believed to promote critical thinking (Brown & Gillis, 1999).

Deliberative discussion is one such discussion method of teaching that requires learners to weigh the costs and consequences of all possible options toward public decision-making and action (National Issues Forum [NIF], 2002). The process of deliberation engages learners to form a shared inquiry that promotes the discussion of controversial issues. Furthermore, much of the contemplation that occurs during deliberative discussion reflects the cognitive work of critical thinking. Hence, learners who participate in deliberative discussions may have the opportunity to practice and enhance critical thinking.

### Background of the Problem

Interest in how to enhance critical thinking abilities in nursing education has continued to escalate over the past twenty years (Scheffer & Rubenfeld, 2000). Similarly, finding instructional methods that foster critical thinking has also paralleled this trend toward incorporating higher levels of thinking into the nursing curriculum (Cook, 2001).

Many different teaching methods have been identified within the nursing literature that has attempted to increase students' critical thinking abilities. These teaching methods include: simulations (Chau et al., 2001; Johannsson & Wertenberger, 1996; Rauen, 2001); computer-assisted instruction (Saucier, Stevens, & Williams, 2000); promotion of writing assignments such as learning/clinical/reflective journals (Croke, 2004; Hancock, 1998; Ruthman, Jackson, Cluskey, Flannigan, Folse, & Bunten, 2004), narratives (Cooper, 2000), portfolios (Sorrell, Brown, Silva, & Kohlenberg, 1997), concept mapping, (Ferrario, 2004; Hsu, 2004; King & Shell, 2002), and scholarly essays (Pullen Jr., Reed, & Oslar, 2001); technology-based assignments (Malloy & DeNatale, 2001; Mastrian & McGonigle, 1999); case studies (Jones & Sheridan, 1999); problem-based learning (Celia & Gordon, 2001; Price & Price, 2000); debate (Bell, 1991); and group discussions (Platzer, Blake, & Ashford, 2000a; Rossignol, 1997). Some authors also feel that critical thinking can only be promoted through the use of a variety of active learning strategies (Elliot, 1996; Pond, Bradshaw, & Turner, 1991; Walker, 2003) such as journaling, written assignments, and cooperative learning (Youngblood & Beitz, 2001). According to Bailin, Case, Coombs, and Daniels (1999), to teach critical thinking is to engage learners in a process of making reasoned judgments or assessments by developing their intellectual resources and providing a supportive environment that values and encourages critical thinking. Incorporating a critical approach in nursing education helps prepare today's graduates to think critically in their practice (Tabak, Adi, & Eherenfeld, 2003). The discussion method is one such teaching approach that has the potential to serve as an educational platform for critical thinking to be practiced and nurtured.

The teaching strategy of discussion is widely used in nursing pedagogy and is believed to provide learners with the opportunity to develop higher levels of thinking. However, this is not to say that all types of discussion promote critical thinking. Meaningful and thought-provoking discussion is more than just encouraging learners to talk (Ngeow & Kong, 2003). Discussion exemplifies a style of democratic process where all participants have an opportunity to voice their viewpoint and engage in mutual and reciprocated critique (Brookfield & Preskill, 1999). Of interest here is the type of discussion encompassed within public deliberation.

Currently, the National Issues Forums (NIF) network supports the conduct of public deliberation across the United States and has helped to set the guidelines for organizing deliberative discussion forums. The process of deliberative discussion is carefully designed and orchestrated by following a suggested format (NIF, 2002). During deliberative discussions, the work of the participants is not just talking about the issues; rather, it is working through the issues toward making sound choices about the future (Mathews & McAfee, 2001). Further, the NIF deliberative approach has been complimented for developing sound public judgments through the enhancement of citizen's cognitive and deliberative skills (Gastil & Dillard, 1999). Hence, it is believed that the teaching method of deliberative discussion can promote the practice and enhancement of critical thinking ability.

Although the importance of critical thinking in nursing education is well-supported, there is a need to empirically discover what teaching strategies are most successful in promoting critical thinking. The effectiveness of the teaching strategy must also be evaluated using reliable and valid measures. Although many authors have shared

their experiences and successes as to what they believe fostered critical thinking in their classrooms, few empirical studies have been found to support their claims. In a review of the literature that focused on teaching and/or measuring critical thinking, Staib (2003) found most research studies on critical thinking teaching strategies had been evaluated anecdotally rather than by the use of reliable and valid measurements. More empirically-based research is needed to support which teaching strategies promote higher levels of thinking in nursing students.

Nurse educators are committed to teaching critical thinking and exploring innovative ways to prepare future nurses (Valiga, 2003). However, it is difficult putting the idea of critical thinking into a practical sense that benefits learners. Nurse educators realize that the ability to critically think is an important quality for learners to possess but are challenged to find the most effective teaching strategies to foster critical thought. Using the deliberative discussion method offers a unique teaching strategy for educators to enhance the critical thinking abilities of nursing students.

#### Problem Statement

The ability to critically think is a fundamental quality needed in today's nurses. While the interest in answering the question 'why' nurses must be critical thinkers progresses, the question of 'how' to enhance critical thinking continues to be a much-debated subject in relation to its use, promotion, assessment, and evaluation. The teaching strategies used to enhance critical thinking are often vaguely described or unevaluated, which has left further doubt whether or not the strategies even fostered critical thinking at all (Adams, 1999; Staib, 2003). Further, most of the nursing research conducted on the effectiveness of critical thinking teaching strategies has been anecdotal

in nature, with limited use of standardized instruments to evaluate growth in critical thinking (Staib, 2003). The discussion method is a well-known teaching strategy to nurse educators but has very limited empirical research to support its the enhancement of critical thinking in nursing students. Because the teaching method of discussion has a wide array of meanings and uses, it is important that the discussion encourages higher levels of thinking and be critical in nature. Deliberative discussions are one type of discussion believed to challenge the thinking of its participants. Further, the deliberative discussion method offers learners the opportunity to practice critical thinking within a forum designed to weigh the cost and consequences of public problems (Holt, Kleiber, Swenson, Rees, & Milton, 1998).

Although deliberative discussion is believed to evoke critical thinking in its participants, no research studies have been found that utilized the process of deliberation as a teaching strategy in nursing. Overall, there is a lack of empirical research to support which teaching strategies are most effective in promoting critical thinking in nursing students. While the discussion method is believed to foster critical thinking, limited research has been conducted to illustrate the effectiveness of the discussion teaching method. Teaching methods must be clear and outcomes should be measurable, to help facilitate the understanding of how educators can enhance critical thinking abilities among learners. Therefore, there is a need to study if the discussion method in the form of a deliberation does enhance the critical thinking ability of nursing students.

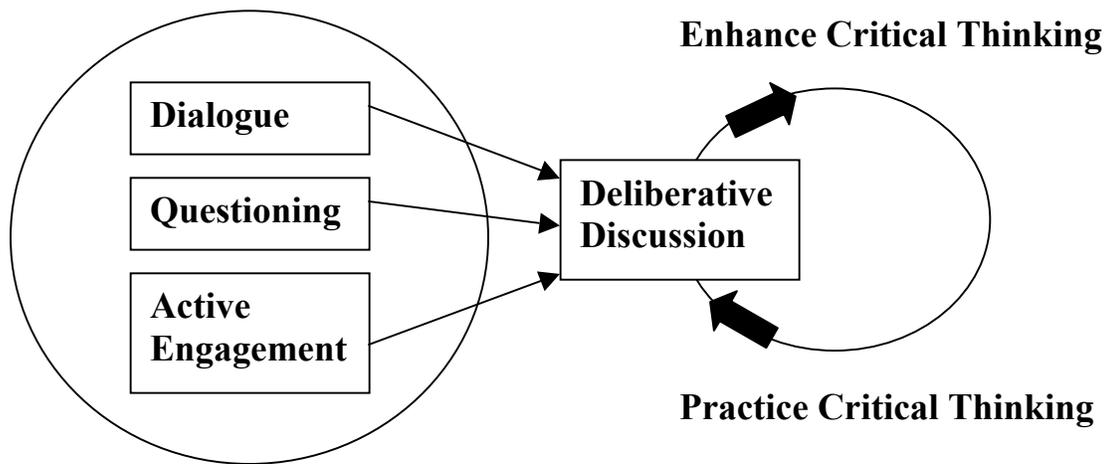
## Purpose Statement

The purpose of this pretest-posttest control group experimental study is to investigate the effects of using the deliberative discussion method teaching strategy to enhance the critical thinking abilities of Freshman Nursing students. The independent variable is the participation in deliberative discussion and the dependent variable is critical thinking ability. It is important to determine if participation in deliberative discussions outside the classroom will have an impact on the critical thinking of Freshman Nursing students entering their first year of study at university. Empirical research is needed to support how using deliberative discussion as a teaching method can promote the critical thinking abilities of Freshman Nursing students.

## Conceptual Framework

Critical thinking is a concept that can be defined, described, and conceptualized in a variety of ways. Pertinent to this research study is to present a solid theory of instruction that supports the relationship among the variables investigated.

It has been suggested that deliberative discussions offer nurse educators a unique teaching strategy toward the promotion of critical thinking. However, a dynamic and stimulating deliberative discussion cannot occur in isolation. A deliberative discussion encompasses elements of dialogue, questioning, and active engagement toward the practice and enhancement of critical thinking (Figure 1.1).



*Figure 1.1.* Conceptual Framework. The practices of dialogue, questioning, and active engagement are mutually interactive and necessary elements of deliberative discussion that allow learners the opportunity to practice and enhance critical thinking.

Teaching and learning with adults is best achieved in dialogue (Vella, 1994). A discussion format is the best arena to use dialogue to help learners express themselves and communicate with fellow learners. The ability to dialogue effectively is essential in a deliberative discussion.

The concept of questioning helps the instructor set the tone of the discussion and engages learners to participate in the discussion. Questions prompt the initiation of dialogue and questions raised by the instructor or the learners also helps to sustain the continuity of the discussion (Brookfield & Preskill, 1999). The process of deliberation requires learners to ask questions regarding the issues at hand and helps to guide the discussion.

Lastly, active engagement is also essential to deliberative discussions. According to Brookfield and Preskill (1999), democratic discussions work best when all participants contribute and feel that their contributions count. It is the work of the participants to engage themselves and each other during the deliberative discussion. Active engagement involves listening and using verbal and/or nonverbal participation. Deliberative discussions require interaction amongst the learners, which can be prompted through the use of questioning and stimulating dialogue.

Hence, it is the goal of the instructor to set the stage for a fruitful deliberative discussion by using the interactive elements of questioning, dialogue, and active engagement. Asking questions initiates dialogue and promotes active engagement by the participants. Subsequently, participants who are engaged in the deliberative discussion will help sustain the conversation by asking/responding to questions and actively participating in the discussion.

When all the elements of an effective deliberative discussion come together, a learning environment is created. More specifically, it is believed that participation in deliberative discussions offer learners the opportunity to practice and develop their critical thinking abilities. Learners dialogue, question, and actively engage themselves during a deliberative discussion. It is thought that these actions encourage learners to think critically and that the participation in deliberative discussion helps to continually promote these abilities.

## Research Questions

The present study addressed the main overarching research question:

1. What effect does the deliberative discussion method have on Freshman Nursing students' critical thinking abilities?

## Research Hypotheses

Non-directional research hypotheses were generated by the research question and include the following hypothesis statements:

H<sub>0</sub>: There will be no difference in critical thinking scores on the CCTST between Freshman Nursing students in the deliberative discussion or control group.

H<sub>1</sub>: Freshman Nursing students who participate in the deliberative discussion group will differ in critical thinking scores on the CCTST than those in the control group.

H<sub>0</sub>: There will be no difference in Freshman Nursing students' critical thinking scores on the CCTST between the pretest and the posttest.

H<sub>2</sub>: Freshman Nursing students' in the deliberative discussion group will differ on the CCTST posttest than on the CCTST pretest.

H<sub>0</sub>: There will be no relationship between Freshman Nursing students' scores on the CCTDI and CCTST.

H<sub>3</sub>: Freshman Nursing students' critical thinking dispositions will be positively correlated with their critical thinking skill scores on the CCTST pretest and CCTST posttest.

H<sub>0</sub>: There will be no explanation of Freshman Nursing students' CCTST posttest scores with the independent variables of CCTDI, HS GPA, ACT score, and deliberative discussion participation.

H<sub>4</sub>: Freshman Nursing students' CCTST posttest scores can be explained by the linear combination of the independent variables of CCTDI, HS GPA, ACT score, and deliberative discussion participation.

H<sub>0</sub>: There will be no difference in the quality of Freshman Nursing students' critical thinking among the deliberative discussion sessions.

H<sub>5</sub>: Freshman Nursing students who participate in the deliberative discussion group will increase the quality of their critical thinking from the first session to the last session.

### Significance of the Study

Learning does not take place in a vacuum nor can it be expected that critical thinking will occur as a result of an attainment of a degree in higher education. Educators must use optimal teaching strategies that will help enhance critical thinking in nursing students. A critical approach to thinking is essential to both academic and practicum experiences (Duchscher, 2003). Due to the present level of complexity in current health care settings, nurses must be able to engage in rationale and responsible decision-making and client health management (Cook, 2001).

The discussion method of instruction is a familiar and frequently used teaching strategy among educators. By its very nature, the discussion method way of teaching and learning offers a medium for dialogue and reflection, two qualities encompassed within the concept of critical thinking.

Therefore, in addition to needing empirical evidence to illustrate that the discussion method of instruction enhances critical thinking, how the teaching strategy is implemented is imperative. Moreover, explicit descriptions of how the teaching strategy

is used will help educators differentiate critical forms of discussion that fosters critical thinking from more superficial approaches to the discussion method that are less interactive or analytical in nature. It is important to understand the principle behind discussion and determine if this teaching strategy can enhance critical thinking, to further substantiate its use in nursing curricula.

### Definition of Terms

The following are the conceptual and operational definitions of terminology, as they will be used throughout this study:

#### *Critical Thinking*

*Conceptual definition.* Critical thinking occurs when thinking is externalized to: challenge the assertions, assumptions, and beliefs offered by other people or other sources of information; explore and imagine all possible alternatives toward reflective skepticism; and engage in active inquiry and analysis (Brookfield, 1987).

*Operational definition.* Critical thinking will be operationally defined in two areas: critical thinking skill and critical thinking disposition. Critical thinking skill will be measured using the California Critical Thinking Skills Test (CCTST), a 34-item, multiple choice test consisting of short problem statements and scenarios. Scores will range from 0 to 34 where low scores indicate low critical thinking skills and high scores indicate high critical thinking skills. Critical thinking disposition will be measured using the California Critical Thinking Disposition Inventory (CCTDI), a 75-item instrument consisting of seven subscales (truth-seeking, open-mindedness, analyticity, systematicity, self-confidence, inquisitiveness, and maturity) with total scores ranging from 70 to 420. Total scores below 280 are considered weak in critical thinking disposition while scores

higher than 350 indicate a strong disposition toward critical thinking. The Holistic Critical Thinking Scoring Rubric measures critical thinking ability in any essay, presentation, or practice setting on a four level scale; level one is the lowest score and level four is the highest score. There are no half scores and the higher the score, the more evidence of critical thinking is present.

### *Deliberative Discussion*

Deliberative discussion is a shared inquiry that asks participants to talk through and weigh the costs and consequences of a variety of possible choices of a public problem (NIF, 2002). It is a purposeful and serious discourse that does not rush to a decision but rather toward careful consideration of alternative points of views and choices (Bridges, 1994). At the heart of deliberation is the group's willingness to work through the conflicts, to accept the consequences of their choices, and to establish grounds for action (NIF, 2002).

### *Assumptions*

The assumptions for this study include the following:

1. Adult learners are equal participants in the learning process.
2. The learning environment will provide a safe atmosphere for discussion.
3. Critical thinking is a process (Brookfield, 1987).
4. Participants will put forth the effort to answer research instruments thoroughly and honestly.
5. Participants will put forth the effort to fully participate in the deliberative discussion sessions.

## Limitations

1. Research study results will be have limited generalizability.
2. Deliberative discussion sessions may vary in location, time, and day of the week.
3. Moderator of deliberative discussions may experience fatigue during the sessions.
4. Participants may experience fatigue toward end of research study as it coincides with the end of the university semester.
5. Sample size may decrease over time because participants in the treatment group must attend at least two out of the three deliberative discussion sessions to be included in the study.

## Summary

The ability to critically think is a valued quality of today's nurses and an essential component of nursing education. However, nurse educators are challenged to find the most effective teaching strategies to foster critical thinking among nursing students. The discussion method is considered to be one such teaching strategy that fosters critical thinking in nursing students (DeYoung, 2003). Further, it is the use of deliberative discussions as a teaching strategy that is believed to give learners the opportunity to practice and foster critical thinking. There is a need to conduct empirically-based research on the effects of using deliberative discussion as a means to help enhance the critical thinking abilities of Freshman Nursing students. Information generated from this study would be helpful to nursing educators who strive to find the most effective teaching strategies to promote critical thinking in their nursing curriculum.

## CHAPTER 2

### REVIEW OF THE LITERATURE

The literature review was completed February 2005 primarily via web database searches. The literature search was limited to articles that pertained to the study topic, published between 1995 and February 2005. The keyword “critical thinking” was entered into the CINHALL database and 2414 resources were listed. Keywords “critical thinking” and “teaching strategies” also yielded 77 resources. Further, the key word “discussion” revealed 14453 resources and 213 resources when combined with “critical thinking”.

The ERIC database provided 3483 resources for “critical thinking”, 1155 resources for “discussion teaching technique”, and 79 resources when these two key words were combined. ProQuest Nursing Journals search revealed 210 resources for the keyword “critical thinking” and 13 resources when “critical thinking” was combined with “nursing” and 8 resources when combined with “discussion”. Lastly, the EBSCOhost Web provided 256 resources for the combination of the terms “critical thinking” and “discussion” and was limited to 82 resources when the keyword “nursing” was also added. The reference lists of the most recent articles retrieved were also reviewed to maximize the completeness of the literature search.

Literature that is pertinent to the research problem was reviewed in the following areas: critical thinking; critical thinking instruments; critical thinking and nursing education; teaching strategies that foster critical thinking in nursing students; discussion method; types of discussions including deliberative discussion, and the relationship between discussion method and critical thinking. The remainder of the chapter addresses the study's conceptual framework.

### Critical Thinking

There is a plethora of literature existing on the concept of critical thinking. Because critical thinking also serves as the conceptual framework for this research study, essential components of critical thinking will be briefly discussed.

#### *Essential Components of Critical Thinking*

There have been many attempts to define, describe, and conceptualize the concept of critical thinking. Of interest here is the development of critical thinking as an essential component of nursing curriculum.

Based on the plethora on nursing literature that has attempted to define, promote, and evaluate critical thinking, it has evolved as a concept that enthralls multiple interpretations. It has been argued that there are general critical thinking skills and discipline-specific critical thinking skills (Vito-Thomas, 2000) and further delineations have been made between the perceptions of critical thinking in practice and non-practice disciplines (Gordon, 2000). While some have developed definitions based on the Dephi technique (Facione, 1990b; Scheffer & Rubenfeld, 2000), others have simply borrowed definitions from other scholars (Brookfield, 1987; Paul, 1993; Watson & Glaser, 1980). Subsequently, our determination to achieve consensus has thwarted movement much

beyond the definition stage, which has contributed to the lack of a solid, theoretical foundation for critical thinking in nursing (Kuiper, 2000). Thus, many interpretations of critical thinking exist.

Critical thinking can be conceptualized as both a philosophical orientation toward thinking and a cognitive endeavor (Glen, 1995), characterized by confidence, contextual perspective, creativity, flexibility, inquisitiveness, intellectual integrity, intuition, open-mindedness, perseverance, and reflection (Scheffer & Rubenfeld, 2000). Critical thinking is a dynamic process rather than an outcome (Brookfield, 1987; Jacobs, Ott, Sullivan, Ulrich, & Short, 1997) and is not a set body of knowledge but rather a purposeful way of thinking (Videbeck, 1997a) that encompasses both cognitive and affective domains (Daly, 1998; Scheffer & Rubenfeld, 2000).

Although many authors have presented their own definitions of critical thinking, the American Philosophical Association, under the direction of Facione (1990b) were the first to attempt to provide a comprehensive definition of critical thinking. Using the Delphi method, Facione organized an expert panel of 53 scholars toward the development of a consensus statement regarding critical thinking. Critical thinking was conceptualized as the following:

We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex

matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society (p. 3).

The development of this general definition of critical thinking has prompted nursing scholars to also clarify the concept as it pertains to their profession. A review of the literature has revealed that nursing has taken major strides toward constructing a clear conceptualization of critical thinking.

Jacobs et al. (1997) described how a nursing faculty committee was formed at a Midwestern university to define critical thinking and critical thinking outcomes for their baccalaureate program. Through dialogue with both students and faculty, the following definition of critical thinking was developed: “In nursing, critical thinking is the repeated synthesis of relevant information, examination of assumptions, identification of patterns, prediction of outcomes, generation of options and choice of actions with increasing independence” (p. 20). Further, Jacobs et al. suggested that faculty need to be role modeling critical thinking and use teaching strategies that have students actively thinking at all times rather than passively accepting information. Overall, the definition offered by Jacobs et al. is simply stated and could be generalized to any discipline that uses critical thinking.

Scheffer and Rubenfeld (2000) conducted their own Delphi technique to develop a consensus statement on critical thinking in nursing. Five rounds were conducted with 55 nursing experts and the following definition achieved 88.2% agreement:

Critical thinking in nursing is an essential component of professional accountability and quality nursing care. Critical thinkers in nursing exhibit these habits of the mind: confidence, contextual perspective, creativity, flexibility, inquisitiveness intellectual integrity, intuition, open-mindedness, perseverance, and reflection. Critical thinkers in nursing practice the cognitive skills of analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting and transforming knowledge (p. 357).

According to Scheffer and Rubenfeld, what set their definition apart from Facione (1990b) were the components of 'creativity' and 'intuition' that they felt were unique to nursing. They concluded that the results of their review of the literature were a beginning step toward exploring several areas of critical thinking in nursing which included: studying what are the most effective ways of nurturing critical thinking in nursing students and studying what instruments are most effective in measuring critical thinking abilities in nursing.

Walther (2004) used a qualitative research approach to explore the conceptions of critical thinking held by nurse educators. Twelve nurse educators were interviewed and the data were analyzed using a descriptive, interpretative approach. Walther discovered that the participants held both traditional and nontraditional views of critical thinking. While all participants conceptualized critical thinking as being a rational and logical process, a feminist view of critical thinking also emerged. Other feminist critical thinking conceptions which emerged included: intuition, subjective knowing, attention to context, emotions, and caring. Walther concluded by echoing the value of appreciating the affective domain of critical thinking along with rationality.

Another qualitative study used an ethnographic approach to discover faculty perceptions of critical thinking. Twibell, Ryan, and Hermiz (2005) interviewed six

clinical faculty members to gather their perceptions of critical thinking as they taught baccalaureate nursing students in clinical settings. The participants described the natural core of critical thinking as students 'putting it all together' and also acknowledged the affective dimension of nursing practice as what sets critical thinking in nursing apart from other disciplines.

Simpson and Courtney (2002) reviewed the literature on critical thinking in nursing and examined the dimensions, teaching strategies and issues related to critical thinking. The authors supported the critical thinking definition offered in the Delphi Report (Facione, 1990b) and that the dimensions of critical thinking comprised of both cognitive skills and affective dispositions. Simpson and Courtney also acknowledged that nurse educators understand the importance of teaching critical thinking skills and remain challenged as to how they can foster these skills in themselves and their learners. Although the authors did mention a variety of teaching methods thought to enhance critical thinking abilities, the discussion method was not listed among them. The authors concluded by recommending that critical thinking strategies should be integrated into nursing curricula, a critical thinking evaluation tool be developed which would be specific to nursing, and utilize critical thinking instruments to evaluate the effectiveness of an educator's teaching techniques.

One of the most recent conceptualizations of the attributes of critical thinking was offered by Forneris (2004). She combined the theoretical perspectives from major scholars such as Freire, Schon, Argyris, Mezirow, Brookfield, and Tennyson and identified the core attributes of critical thinking to be reflection, context, dialogue, and time. Reflection helps to move critical thinking along the continuum from knowing what

to knowing how to knowing why. Forneris defined context as, “the nature of the world in a given moment and includes culture, facts, ideals, concepts, rules, principles, and underlying assumptions that shape how we construct knowledge” (p. 10). The attribute of dialogue actualizes the critical thinking process through mutual understanding and interaction. Lastly, time was described as a temporal process of critical thinking that applies past and present learning to impact future learning. According to Forneris, together these attributes formulate the conceptual basis schemata of critical thinking in practice.

Brookfield (1987, 1993, 1998, 1999) is one author who has fully explored the concept of critical thinking and has provided educators with a theoretical basis for its understanding. Through his writings, he has made it clear that there are many dimensions to the critical thinker and the critical thinking process. The following is an examination of Brookfield’s perceptions of critical thinking.

Brookfield (1987), who has been widely cited in the nursing literature, has identified four key components of critical thinking: identifying and challenging assumptions; challenging the importance of context; imagine and explore alternatives; and imagine and explore alternatives to lead to reflective skepticism.

Uncovering the assumptions that undergird one’s thoughts and actions is crucial to the critical thinking process. Assumptions are the common sense beliefs, those taken-for-granted ideas and self-evident rules of thumb that may appear to be so obvious that we rarely question their authenticity. Brookfield (1995, 1997) states that we *are* our assumptions in the sense that they help us make meaning and purpose for everything we think, say, or do. “Hunting assumptions” is also one of the main premises of

Brookfield's understanding of critical reflection, which overlaps with his view on critical thinking. However, the close resemblance between the two concepts strengthens Brookfield's tenet that scrutinizing one's own implicit belief system elicits the critical stance needed for higher levels of thinking and reflection. If we catechize our assumptions based on our own interpretative lenses, we may engage in a habitual cycle of self-approval and affirmation of our current worldviews. By identifying and challenging our assumptions, we can begin to understand how the context and our actions are formed. According to Brookfield (1987), our assumptions are based in social, cultural, and historical specific contexts. He elaborated, "When people realize that actions, values, beliefs, and moral codes can be fully understood only when the context in which they are framed is appreciated, they become much more contextually aware" (p. 16). Critical thinkers continuously reappraise their value and belief systems, depending on the context of a situation. Therefore, hegemonic assumptions cannot be acknowledged and/or repudiated unless we engage in critical dialogue with others. The deliberative process imbues the critical examination of our commonly held assumptions and beliefs.

Gaining the awareness that there exist multiple truths to reality is the focus of the last three components of critical thinking. Whatever we regard as our own personal vision, there will always be other alternative ways of thinking and living (Brookfield, 1987). The realization of alternatives evokes our critical curiosity to question the validity of universal truths or narrow-minded speculations of life's challenges and problems. Brookfield termed this growth in critical thinking as *reflective skepticism* where we begin to doubt the claims of ultimate truths or empty justifications such as "That's just the way it is". It is a call to question the ideas, structures, and causes possessed by others and

one's self. Critical thinkers arrive at their convictions after a time of questioning, analysis, and reflection.

Brookfield characterized critical thinkers as individuals who: engage in productive and positive activities; envision critical thinking as a process rather than an outcome; vary their manifestations of critical thinking according to context; believe critical thinking is triggered by positive as well as negative events; and feel critical thinking is emotive as well as rational. Essentially, Brookfield has developed the tools for nurse educators to begin to understand the concept of critical thinking as a means to heighten critical thought within themselves and their learners.

Conceptualizing critical thinking as it relates to the nursing profession can be thoughtful and exhaustive endeavor. Scholars from all disciplines agree that critical thinking encompasses a logical and rational process but perhaps what is unique to the nursing profession are the intuitive and affective aspects of critical thinking. Further, the measurement of critical thinking has shown to be as equally complex and challenging task. There are many reliable and valid instruments that measure general critical thinking but none specific to nursing. The following is a discussion of the most commonly used instruments used to measure critical thinking in nursing.

#### *Critical Thinking Instruments*

There exists multiple ways critical thinking can be assessed and evaluated. The three most frequently cited quantitative instruments used to measure critical thinking within the nursing profession are: the Watson-Glaser Critical Thinking Appraisal (WGCTA) (Watson & Glaser, 1980), the California Critical Thinking Skills Test

(CCTST) (Facione, 1990a, 1992; Facione, Facione, Blohm, & Giancarlo, 2002), and the California Critical Thinking Dispositions Inventory (CCTDI).

Because of its strong reliability and validity, the WGCTA has been the most commonly used instrument to evaluate the critical thinking abilities of nursing students. In one cross-sectional study, the WGCTA was used to compare: the critical thinking abilities among registered nurses (RNs) entering Bachelor of Science in Nursing (BSN) completion programs (Retsas & Wilson, 1996); critical thinking between Sophomore and Senior nursing students (Adams, Stover, & Whitlow, 1999); and critical-thinking types among nursing and management undergraduates (Thorpe & Loo, 2003). In longitudinal studies, the WGCTA has been used to compare the critical think abilities of nursing students entering a nursing program and again when they complete the program (Angel, Duffey, & Belyea, 2000; Behrens, 1996; Brown, Alverson, & Pepa, 2001; Frye, Alfred, & Campbell, 1999; Magnussen, Ishida, & Itano, 2000; Pepa, Brown, & Alverson, 1997; Vaughan-Wrobel, O'Sullivan, & Smith, 1997). However, there has been a trend for researchers in nursing to move away from the WGCTA and toward the use of the CCTST and the CCTDI.

The CCTST and the CCTDI have slowly been gaining popularity as a reliable and valid measurement within the nursing discipline. The CCTST and the CCTDI have been used to describe the critical thinking abilities of graduating BSN seniors (Bowles, 2000; May, Edell, Butell, Doughty, & Langford, 1999) and RN to BSN completion learners (Leppa, 1997); to measure the effects of simulation among baccalaureate nursing students (Chau et al., 2001); to conduct cross-sectional comparisons between beginning and graduating baccalaureate nursing students (McCarthy, Schuster, Zehr, & McDougal,

1999); and as predictors of cognitive development in registered nurses (Rapps, Riegel, & Glaser, 2001). The CCTST has also been used in longitudinal studies to assess critical thinking abilities of baccalaureate nursing students (Beckie, Lowry, & Barnett, 2001; Spelic et al., 2001). Despite the vigorous assessment of critical thinking abilities among nursing students before and after program completion, progression and subsequent graduation from nursing alone has not shown to significantly increase critical thinking abilities (Brock & Butts, 1998).

CCTST has been becoming an increasingly popular measurement of critical thinking ability in nursing students. Facione and Facione's 2002-2003 norm sample of 2677 4-year college students' mean CCTST score of 16.80. In comparison with other nursing students who completed the CCTST, the results vary. Keeping in mind that the CCTST Form 2000 was found to be more reliable than the CCTST Form A and B (Facione et al., 2002), many of the nursing research studies found on critical thinking used the CCTST Form A and none were found that used Form 2000.

Beckie et al. (2001) studied three cohorts of baccalaureate nursing students using the CCTST Form A at program entry, midpoint, and at exit, to evaluate a curriculum revision in their nursing program. Mean CCTST scores ranged from 13.6 to 18.5. However, since the critical thinking abilities of Freshman Nursing students are of interest here, the mean scores at program entry for each of the cohorts was 16.1, 17.8, and 16.7. Furthermore, the students in cohort two had experienced a significant increase in CCTST scores by program exit. Yet, the changes in critical thinking could not be attributed in any one specific teaching strategy other than they were the first group to experience the curriculum revision and the passage of four years from program entry to exit. Overall, the

mean CCTST scores on program entry were slightly higher but similar to the current study participants' CCTST scores.

Other mean CCTST scores include: 17.10 (pretest) and 17.83 (posttest) in Junior nursing students (Wheeler & Collins, 2003); 15.97 (pretest) and 17.68 (posttest) in nursing students from Sophomore to Senior year (Thompson & Rebesch, 1999); 15.36 in Sophomore nursing students and 17.26 in Senior Nursing students (McCarthy et al., 1999); 17.22 in practicing registered nurses (Rapps et al., 2001); and 18.2 in 65 Senior Baccalaureate nursing students in two nursing programs (Bowles, 2000).

The CCTST offers one piece of empirical evidence regarding critical thinking ability among nursing students. Another instrument that could provide insight into nursing students' critical thinking skill is the CCTDI.

The CCTDI has been frequently used among college students to describe their disposition toward critical thinking. According to Facione, Facione, and Giancarlo (2001), CCTDI mean scores below 290 indicated a weak critical thinking disposition while scores above 350 indicated a strong disposition.

In a large study by Facione, Giancarlo, Facione, and Gainen (1995), 587 Freshman undergraduates who completed the CCTDI at the beginning of the 1992/93 academic year had a mean score of 298.22. Kawashima and Petrini (2004) reported a CCTDI mean score of 273.38 among 82 Freshman and Sophomore nursing students. In another study by Stewart and Dempsey (2005), they conducted a longitudinal study of Baccalaureate Nursing students' critical thinking dispositions. Although they did not report mean CCTDI total or subscale scores, they found that the participants' scores did not significantly change from Sophomore to Senior year. Further, CCTDI were not

significantly correlated with GPA, NCLEX-RN, or ERI RN Assessment test (Stewart & Dempsey, 2005). May et al. (1999) reported a mean CCTDI score of 311 and mean CCTST score of 16.76 with senior baccalaureate nursing students. Although they did not report a relationship between the two variables, they also found no significant correlations between critical thinking and clinical competence. Leppa (1997) found the CCTDI to be useful with RN Baccalaureate students as part of their program assessment of critical thinking. After the CCTDI was completed, scores were returned to the students during an introductory, critical thinking course and served as a tool to discuss the skills, development, and importance of critical thinking in nursing.

It has also been reported that some researchers have used the CCTDI as the main measure of a student's critical thinking ability (Tanner, 2005). This turn of events is an interesting finding as the CCTDI is an instrument intended to measure one's disposition toward critical thinking, rather than measure one's skill in being able to critically think (Facione et al., 2001; Facione et al., 2002). This was the case in a study by Nokes, Nickitas, Keida, and Neville (2005) who used the CCTDI to measure the effects of service learning on critical thinking. They used a pretest and posttest measure of CCTDI with 14 RN to BSN undergraduates and 3 graduate students. Their CCTDI mean score for the CCTDI pretest was 319.31 and 297.50 for the CCTDI posttest. The CCTDI mean score for the current study fell between these two means, although the participants differed in age and level of study.

Other CCTDI mean scores reported among nursing students include: 315.48 in 156 Sophomore Nursing students and 325.94 in 85 Senior Nursing students (McCarthy et al., 1999); 323.9 (pretest) and 332.5 (posttest) in 38 nursing students from Sophomore to

Senior year of study (Thompson & Rebeschi, 1999); 264.70 in year 1, 2, and 3 Chinese nursing students (n = 122) (Ip, Lee, Lee, Chau, Wootton, & Chang, 2000); 268.36 in 222 Chinese nursing students and 287.73 in 162 Australian nursing students (Tiwari, Avery, & Lai, 2003); 318.74 in 65 registered nurses beginning a critical care orientation (Smith-Blair & Neighbors, 2000); and 313.52 in 232 practicing registered nurses (Rapps et al., 2001). Overall, most researchers have reported nursing students have having a positive disposition toward critical thinking while some students have displayed a negative disposition toward critical thinking.

Not many studies were found that actually described the relationship between the CCTST and the CCTDI. McCarthy et al. (1999) reported a Pearson correlation coefficient of 0.24 and concluded that further research is needed to explore the relationship between these two critical thinking instruments. Similarly, Stone, Davidson, Evans, and Hansen (2001) collected CCTDI and CCTST scores from graduating Senior Baccalaureate Nursing students (n = 172) and calculated a Pearson r of 0.09. The researchers concluded that the traits measured by the CCTDI were not related to critical thinking skills and a better indicator to measure nursing students' critical thinking ability was needed. This lack of statistical significant correlation was also confirmed by the instruments' developers. According to Facione (1998), a one-to-one relationship does not exist between the CCTST and the CCTDI. Rather, Facione and his associates concluded that skill and disposition are two separate traits in individuals and a positive ability in one does not presuppose a positive ability in the other. They also recommended that both critical thinking skills and critical thinking dispositions be nurtured in students in school curricula.

The small to moderate relationship between the CCTST and CCTDI has no practical influence as these instruments are measuring two different things and are not dependent on one another. Of interest here is the meaning of the CCTDI or the CCTST as an accurate measure of critical thinking disposition or skill in Nursing students. It is important to also consider other forms of measurement when studying critical thinking ability in Nursing students.

Qualitative measures of critical thinking are becoming more popular such that many researchers openly reject quantitative tools such as the WGCTA (Martin, 1996), often on the basis that critical thinking instruments cannot measure small changes in one's thinking (Duchscher, 2003). Another group of researchers even developed their own qualitative tool to evaluate critical thinking skill development in clinical practice (Cise, Wilson, & Thie, 2004). Cise et al. (2004) developed the Critical Thinking Self-reflection Tool after their Baccalaureate Nursing program's assessment team found disappointing results with both the CCTST and CCTDI to assess critical thinking in their students. Although their instrument had not been tested, anecdotal reports on the implementation of the tool indicated an increase in the nursing students' critical thinking skills in clinical situations.

Therefore, qualitative research measures are becoming more popular in the study of critical thinking but do not provide the empirical evidence needed to measure incremental changes in critical thought. Further, anecdotal reports on the success of a qualitative instrument lack the rigor that valid research can provide.

Some researchers have conducted in-depth interviews at the completion of an intervention or program to elicit data about their experience but not necessarily measure

if their critical thinking had increased (Platzer et al., 2000a; Platzer, Blake, & Ashford, 2000b). The qualitative methodology using the case study approach has been used to describe nursing students' critical thinking from their own perspectives (Sedlak, 1997). Further, qualitative assessment criteria in the form of a rubric have been used to help researchers identify characteristics of critical thinking abilities in written work (Brown & Gillis, 1999; Martin, 1996). For example, The Holistic Critical Thinking Scoring Rubric (Facione & Facione, 1994) has been used to assess the presence of critical thinking in writing portfolios (Sorrell et al., 1997).

It is evident that there are many reliable and valid tools to evaluate critical thinking. However, these standardized tools only measure generalized critical thinking and are not specific to the nursing discipline (Staib, 2003). Although the WGCTA has historically been the most widely used instrument to measure critical thinking abilities in nursing students (Adams, Whitlow, Stover, & Johnson, 1996), there is now a trend toward using the CCTST and CCTDI in nursing research as a reliable and valid means to measure critical thinking (Stone et al., 2001). Hence, the CCTST and CCTDI were the best choices of instruments to empirically measure critical thinking in the present research study.

### *Critical Thinking and Nursing Education*

In the era of a rapidly changing health care system, nurse educators are faced with the enormous challenge of effectively teaching critical thinking skills (Cook, 2001; Ironside, 1999). The goal of nursing education programs is to graduate nurses who can critically think (AACN, 1998; Glen, 1995; Malinski, 2001; NLN, 1992; Videback,

1997b). Hence, it is necessary to explore how critical thinking is fostered through nursing education programs.

Adams (1999) conducted an integrative review of the literature concerning nursing education for critical thinking. She summarized 20 research studies dating from 1977 to 1995 that sampled nursing students in various learning institutions and types of programs. Overwhelmingly, the WGCTA was the instrument used in 18 out of 20 studies to measure critical thinking. Adams concluded that she found no consistent evidence that nursing education promotes the critical thinking abilities of nursing students. She attributed this lack of consistency to a number of possible explanations. Adams acknowledged that there was a lack of a clear and concise definition of critical thinking and no reliable and valid instrument to specifically measure critical thinking in nursing. Further, she felt that posttests were administered too early after the pretest and did not reflect changes in critical thinking abilities. Another explanation offered by Adams was the fact that the research instruments only measured general critical thinking ability and were not specific to nursing students. Lastly, Adams reported that regardless of the changes in critical thinking ability that were reported, the teaching strategies used with the students should be more explicitly described. However, it should be noted that no studies were reviewed that used the CCTST and/or the CCTDI as the research instrument. Therefore, Adam's inconsistent findings of critical thinking among nursing students may be attributed to the conventional use of the WGCTA instrument.

One research study was found that attempted to develop a predictive model of what makes a critical thinker. Rapps et al. (2001) collected data such as CCTST, CCTDI, and other demographic data from 232 practicing registered nurses in order to predict

cognitive development. The registered nurses' cognitive development was categorized at the level of dualism, relativism, or commitment, based on Perry's theory of cognitive development. The researchers' found that critical thinking skill was the only significant predictor to the lowest level of cognitive development of dualism. The CCTDI contributed to all three levels of cognitive development. Rapps et al. concluded that the development of a critical thinker takes time and experience and cannot be the only measured outcome of formal nursing education.

Another study was also found that used Perry's theory of cognitive development to describe the cognitive development of Freshman Nursing students. McGovern and Valiga (1997) collected data on Freshman nursing students enrolled in a first year nursing course either in the Fall semester (n = 59) or in the Spring semester (n = 71). The student's cognitive development was measured at the beginning and end of the Fall semester and again at the end of the Spring semester. The researchers determined that some participants did experience cognitive growth but the mean level of cognitive development was in the dualism category.

Giddens and Gloeckner (2005) also developed a predictive model to determine if performance on the NCLEX-RN was related to critical thinking. The researchers used the CCTST and CCTDI to measure critical thinking at program entry and exit and related those scores to the baccalaureate nursing graduates' pass or fail on the NCLEX-RN exam. The researchers found that CCTST and CCTDI scores significantly contributed to the prediction of NCLEX success but was poor at predicting who had failed. Although did not reveal actual mean scores on the critical thinking instruments, they did state that there were no significant changes in CCTST or CCTDI scores from program entry to

program exit. Other researchers who used the CCTST to measure critical thinking ability longitudinally have also found similar findings.

Because the ability to critical think is closely related to level of one's cognitive development (Brookfield, 1993), lack of cognitive development over the course of an academic year or after completion of a nursing program could be linked to lack of growth in critical thinking ability in the same time period. However, there have been mixed research findings in relation to critical thinking ability changing over time.

With the movement of integrating critical thinking throughout nursing curricula, so did the increased interest in measuring the critical thinking abilities of baccalaureate nursing students. A natural assumption exists that as a nursing student progresses through the nursing curriculum, her/his critical thinking abilities also become more sophisticated (Adams, 1999). In cross-sectional studies, some researchers have concluded that Senior Baccalaureate Nursing students have scored higher on critical thinking instruments than Freshman Nursing students (Frye et al., 1999) and Sophomore nursing students (McCarthy et al., 1999). In longitudinal studies, the development of critical thinking abilities in nursing students over a specific period of time have concluded with mixed results. While it is believed that the sheer passage of time would help nursing students' develop their critical thinking abilities (Videbeck, 1997b), others have found no significant differences in the nursing students' critical thinking from Freshman to Senior year (Frye et al., 1999) or from Sophomore to Senior year (Adams et al., 1999). Others have compared the critical thinking abilities among students enrolled in different pathways in a baccalaureate degree program and also found conflicting results. When comparing students who were enrolled in traditional, accelerated, or RN-BSN tracks,

Brown et al. (2001) subjects' critical thinking scores were tested at the beginning and end of a nursing course and were found to be significantly higher for those enrolled in traditional and RN-BSN tracks but not the accelerated. Spelic et al. (2001) found students enrolled in traditional and accelerated streams had significant increases in critical thinking from entry to exit of the nursing program but not for those in the RN-BSN stream. However, the number of students in the RN-BSN stream was significantly smaller (n=17) than the traditional (n=51) or accelerated (n=68) streams. Lastly, Thompson and Rebesch (1999) found significant increases in CCTST and CCTDI scores in nursing students from the beginning of Sophomore year until the end of their Senior year.

Cise et al. (2004) reported that the rationale for developing their qualitative Critical Thinking Self-Reflection Tool was to be able to monitor nursing students' critical thinking over time and be able to provide feedback. Students responded to higher level questions written in the tool and repeated this process either over an entire clinical course or in all clinical courses over a year's time. Therefore, the key to measuring critical thinking may require the development of an instrument specific to nursing and allow to the observance of small changes in critical thinking.

It cannot be assumed that nursing education alone will increase critical thinking abilities of nursing students (Adams, 1999). Further, because there is no one universally accepted instrument to measure critical thinking in nursing (Videbeck, 1997b), researchers need to be cautious with their interpretations of the meaning of critical thinking scores.

Studying in a nursing education program alone does not guarantee that its graduates will be critical thinkers. It is imperative that nurse educators use teaching strategies that will allow its learners the opportunity to practice and enhance their critical thinking ability.

*Teaching Strategies to Foster Critical Thinking in Nursing Students*

Many different teaching methods have been identified within the nursing literature that has attempted to increase students' critical thinking abilities. One common theme noted in the literature is the importance of employing active teaching strategies with nursing students to help them practice and enhance their critical thinking (Loving & Wilson, 2000; Oermann, 2004; Walker, 2003; Youngblood & Beitz, 2001).

Chau et al. (2001) conducted a study to measure the effects of videotaped vignettes on nursing students' critical thinking abilities. Using a pretest-posttest design, 82 Freshman and Sophomore nursing students' critical thinking abilities were measured using the CCTST before and after viewing a total of eight vignettes. Students completed critical thinking exercises based on the client situations depicted in each vignette. The researchers found that there were no significant differences between the students' CCTST pretest and posttest score. However, researchers did find a significant increase on the students' 'Nursing Knowledge Test', a self-developed instrument. The researchers did not use a control group in the study.

Wheeler and Collins (2003) studied the influence of concept mapping on the critical thinking abilities of baccalaureate nursing students. Using a quasi-experimental design, 76 students were randomly assigned to either use concept mapping to prepare for clinical experiences or use traditional nursing care plans as in the control group. Critical

thinking was measured by the CCTST as a pretest and again approximately eight weeks later. The researchers found no significant difference in CCTST scores between the concept mapping group and the control group. Although, the treatment group's CCTST scores did significantly increase from pretest to posttest, the researchers could not conclude that concept mapping was a better teaching strategy than traditional nursing care plans.

Staib (2003) conducted a review of the literature to identify teaching strategies that are believed to increase critical thinking and determine how effective the strategies have been. Using the CINAHL database, Staib identified 17 articles from 1996 to 2002 that related to critical thinking teaching strategies. She analyzed the methods of teaching according to Scheffer and Rubenfeld's nine "habits of mind" based on their consensus statement on critical thinking in nursing, which was previously presented. The main themes of the teaching strategies uncovered were: stimulating reflection; stimulating real world practices; using concept maps/imagery; using computer-assisted instruction; and applying case studies. Only one article was found that used discourse teaching strategies (Rossignol, 1997). Staib summarized by stating the most commonly used critical thinking "habits of mind" used were: reflection, creativity, contextual perspective, and open-mindedness. However, Staib also acknowledged that it was difficult translating critical thinking dispositions into actual teaching strategies. Further, educators need the opportunity and time to learn and develop teaching strategies that foster critical thinking. Of importance here is to acknowledge that there is no one 'best' strategy to teach critical thought; rather, a need to find teaching strategies that empirically support the enhancement of critical thought.

In addition to using teaching methods that foster critical thinking, it is essential that nurse educators also role model the process of how to critically think (Jacobs et al., 1997; Loving & Wilson, 2000). To teach nursing students how to critically think is not a passive act on the part of the educator. Educators also have to role model active learning in order for students to learn how to participate in critical thinking activities themselves. Too often, students are expected to engage in critical thought but are never directed or given time to learn what it means to critically think. Thus, it is beneficial for educators to take time to learn how to use teaching strategies that may foster critical thinking and role model the critical thinking process for the learners who are expected to engage in critical thinking activities.

In a recent editorial, Tanner (2005) summarized the current thinking on the relationship between critical thinking and effective teaching strategies in nursing education. She stated that overall there was no empirical evidence to show significant changes in critical thinking as a result of a specific teaching strategy. However, nursing programs are still expected to demonstrate how they can foster critical thinking in their learners. Although there is a lack of empirical research that supports which teaching strategies work best to foster critical thinking, the discussion method is one such teaching strategy that is believed to be effective in facilitating critical thinking among its learners.

### The Discussion Method as a Teaching Strategy

#### *Essential Components of Discussion*

The discussion method is a teaching strategy that fosters a face-to-face interaction between teachers and learners. The purpose of class discussion can vary from the simple exchange of ideas and opinions to more in-depth levels of interaction. According to Davis

(1993), “Through discussion, students gain practice in thinking through problems and organizing concepts, formulating arguments and counterarguments, testing their ideas in a public setting, evaluating the evidence for their own and others’ positions, and responding thoughtfully and critically to diverse points of view” (p. 63). Brookfield and Preskill (1999) embrace discussion as a way of teaching to facilitate critical thinking, enhance self-awareness and self-critique, appreciate diversity, and promote democracy through informed action.

Hunkins (1995) believed there were four phases that encompass the discussion method: commencement; confrontation; challenge; and concluding. The phase of commencement initiates the discussion by the educator through a series of statements or questions. The learners become aware of the purpose for the discussion and the issues/topics to be discussed. In the confrontation phase, learners are made aware the format of the discussion and can ask questions or clarify the topic in focus. The challenge phase is the actual discussion that takes place among the learners. Learners are given opportunities to dialogue by contributing their ideas, raising questions, critically thinking, reflecting, and challenging each other. In the concluding phase, the discussion is summarized and conclusions are drawn. At this point, the educator can also set the stage for future discussions by raising unanswered questions and other directions that could be explored.

Although the main premise of a discussion to have the learners speak and listen will not change, the format, depth, and overall purpose of the discussion can vary. The following is an examination of the different types of discussions.

### *Types of Discussions*

Leading a productive discussion is one of the most challenging and satisfying endeavor an instructor can embrace (Cross, 2002). The teaching method of discussion can occur at varying levels and depths. At the more superficial end of the discussion continuum, guided discussion tends to be more structured, at a lower cognitive level, and frequently used to facilitate the learner's understanding of the subject (Wilén, 1990). According to Ngeow and Kong (2003), this type of discussion gives learners the opportunity to develop critical thinking, questioning, and oral expression. However, discussion would primarily remain at a surface level without critical or in-depth inquiry.

Hill's (1977) "Learning Thru Discussion" (LTD) method could be characterized as a type of guided discussion. Hill outlined the importance of the discussion leader role modeling how the discussion should flow. He posited that when using the LTD method, the learners come to the discussion prepared and would be guided in a group discussion to promote learning. The LTD method is highly structured and is comprised of the following steps: 1) Definition of terms and concepts; 2) Statement of the author's message; 3) Identification of major themes; 4) Allocation of time; 5) Discussion of major themes and subtopics; 6) Integration of material with other knowledge; 7) Application of the material; and 8) Evaluation of author's presentation. According to Hill, if the LTD steps were followed explicitly, learners would engage in a higher level of thinking.

Reflective types of discussion encourage higher levels of cognition through insight, self-exploration, critical and creative thinking (Ngeow & Kong, 2003; Wilén, 1990). Bridges (1988) characterized higher ordered discussion as encompassing notions of enrichment and refinement. Enrichment helps heighten learners' awareness of

thinking and other viewpoints while refinement assists learners to question their own assumptions and engage in self-critique. Similarly, Ngeow and Kong (2003) viewed inquiry-based discussion as a means to discover relationships, acquire reasoning skills, interpret, analyze, and synthesize supporting and opposing ideas of an issue. Further, inquiry learning requires that discussion questions be thoughtfully constructed and ordered to evoke critical thinking (Schmit, 2002).

Brookfield and Preskill (1999) would posit that any interaction, whether it is labeled a discussion, dialogue, or conversation, which involves participants taking a critical stance and questioning their assumptions and beliefs would imply that a critical discussion has taken place. Furthermore, Brookfield (1998) believed that, “To participate in discussion – in the collaborative efforts to find meaning in, and make sense of, our experience – calls for courage and hard work on the part of learners and leaders” (p. 184). Thus, participants needed to make a concerted effort within the discussion for it to be effective.

Overall, it is evident that the discussion method as a teaching strategy can take many forms. However, the type of discussion that is of interest in this research study is the deliberative discussion.

*Deliberative Discussion.* Unique to deliberative discussion is the process of deliberation. According to Brookfield and Preskill (1999), “Deliberation refers to the willingness of participants to discuss issues as fully as possible by offering arguments and counterarguments that are supported by evidence, data, and logic and by holding strongly to these unless there are good reasons not to do so” (p. 13). Bridges (1994) characterized deliberation as a collaborative group discussion that is analytical, reasonably reflective,

and painstaking. It is a purposeful and serious discourse that does not rush to a decision but rather toward careful consideration of alternative points of views and choices (Bridges, 1994). The essence of deliberation is the weighing of alternatives and discussing all possible courses of action related to a public problem (Parker, 2001). The essence of deliberation focuses on “What should we do?” towards resolving the question of right action rather than solving the problem (Dillon, 1994).

Initiated in 1982, the NIF became a nonpartisan, nationwide network representing educational and community organizations that conduct deliberative discussions about public issues (Heane, Kranich, & Willingham, 2003). In essence, “NIF’s simple goals of developing sound public judgments through increasing citizens’ cognitive and deliberative skills are well-suited to the deliberative approach” (Gastil & Dillard, 1999, p. 189). Deliberative discussions differ from debates in the sense that a debate keep participants into deeply entrenched positions while deliberation asks participants to listen to each other to develop a deeper understanding of alternative viewpoints (Heane et al., 2003). In essence, deliberative discussions are a form of shared inquiry that engages the participants throughout the deliberation in hopes that the discussions will continue outside the forum toward civic action. Encompassed within a shared spirit to learn and understand, participants need to be open to listen to each other and the issues at hand. Further, the process is structured such that any community or educational institution can use its format to conduct its own deliberative discussions. The following is a description of the deliberative discussion method.

The moderator begins the forum by establishing ground rules. This is a common mechanism for setting the charge of the participants and clarifying the purpose of the

discussion. The moderator then introduces the work of deliberation and the issue to be the focus of the deliberative discussion. Because participants rarely read preparatory materials prior to the discussion, it is important that the moderator offer a brief summary of the issue either by reading or showing a short 10-15 minute video. After the brief introduction, the moderator connects the issue to the participants' lives by inviting them to take a personal stake. Participants are given the opportunity to share their personal experiences with the issue, which helps to make the issue real and pertinent to their own lives.

The majority of the forum consists of the work of deliberation. Three or four approaches indicate the basic ideas of the public issue, thus ensuring that at least one point of view will be respectfully represented for each participant. According to Burkhalter, Gastil, and Kelshaw (2002), "A discussion is more deliberative if it takes into account a broad range of perspectives on a issue" (p. 402). According to Burkhalter et al. (2002), group members are likely to participate in deliberation if they are motivated to hear and process the contents of the arguments. The moderator remains neutral while guiding the participants through the deliberative process and having them weigh all the alternatives of the issue.

Moderators play a significant role in deliberation. According to Gastil and Dillard (1999), "Moderators encourage participants to connect choices with values, illustrate their ideas with personal stories or examples, consider hypothetical dilemmas, and explore the consequences of actions for different people" (p. 185). Further, the moderator needs to possess excellent facilitation skills for successful dialogue and learning to occur (Patel et al., 2001). The moderator's behavior in terms of modeling active listening and

the democratic process could influence the behavior of other group members (Gastil, 2004). Therefore, the moderator must be skilled in the deliberative discussion format for an effective discussion to evolve.

The four main questions that the moderator asks the participants are: 1) What is valuable to us in this issue; 2) What are the costs and consequences associated with the various options; 3) Where are the conflicts in this issue that we have to work through; and 4) Can we detect any shared sense of direction or common ground for action (NIF, 2002)? The goal of the discussion is not to deliberate to one final solution; rather, to identify commonalities within the issue and move toward civic action.

The end of the forum is reserved for reflection and discovering a shared sense of purpose and accomplishment. Some questions that guide this portion of the deliberation are: 1) How has your thinking about the issue changed; 2) What didn't we work through; 3) How can we use what we learned in this forum; and 4) What, if anything, do we want to do next (NIF, 2002)? Providing participants the opportunity to reflect allows them to realize how their interests are interconnected and how their perceptions can create new possibilities for acting together.

A recent article was found by Gastil (2004) who explored the development of democratic habits among students in adult civic education through the use of deliberative discussions. In his first study, Gastil used a quasi-experimental design to employ NIF-style deliberation in one class (n = 76) and regular class activities without deliberation in another (n = 73). Students completed a survey at the end of the course to measure valuation and expectancy of political outcomes, political self-efficacy, political group efficacy, community identity, and civic duty. Participation in the deliberative discussions

only significantly correlated with one political belief; group efficacy ( $r = -.18$ ,  $p = .048$ ). Deliberative discussion participants reported lower levels of group efficacy and were believed to be more skeptical about effective group political decision making and action.

Gastil (2004) then conducted a second study involving participants with different educational experiences to also examine the effects of NIF on the development of democratic habits. Participants ( $n = 177$ ) were recruited by contacting NIF forum moderators and were asked to complete similar survey questions asked in the first study. Overall, Gastil did not find any clear association between NIF experiences and political conversation behaviors. Gastil concluded that engaging in deliberative discussions could promote broader political conversations but may not promote the full range of democratic effects as proponents believed. However, Gastil also suggested a longitudinal study to provide a better indication of long-term impact of deliberation

The intent of a deliberative discussion is to have participants engage in a face-to-face discussion that moves through a structured process. It is this process that is believed to facilitate higher levels of thinking.

#### Relationship Between Discussion Method and Critical Thinking

Using discussion as an effective teaching strategy in the classroom is a challenging endeavor. The drawbacks to the discussion method are that it is time consuming, often unpredictable, and an inefficient way to provide information (DeYoung, 2003). However, time and again, authors have provided anecdotal evidence that discussions help foster critical thinking in nursing students (Staib, 2003). Discussion methods are superior to other teaching methods when it comes to promoting critical thought (Bligh, 2000) and are more influential on one's thinking than traditional

lecture method (Harden, 2003). Although Hill (1977) did not explicitly elaborate on the impact of critical thinking when using the LTD teaching method, in a LTD sample student evaluation form, he asked, “Do you think your ability to think critically was enhanced by the LTD method?” Hence, it could be subsumed that Hill postulated that there was a positive and deliberate relationship between the LTD method and critical thinking.

Very few research studies were found in the nursing literature that tested the effectiveness of the discussion method as a teaching strategy to promote critical thinking. Rossignol (1997) conducted a correlational, exploratory study on the relationship between selected discourse strategies used in nursing clinical post-conferences and student critical thinking. Selected discourse strategies included: (a) teacher high-level questions, (b) teacher elaboration of student ideas, (c) teacher probing questions, (d) student participation, and (e) student-to-student participation. The Bellack’s Linguistic Analysis System was used to evaluate the quality of the post-clinical dialogue and the WGCTA was the summative instrument used to measure student critical thinking. Out of a convenience sample of 82 senior nursing students enrolled in a baccalaureate nursing program, 57 participants completed the WGCTA. Rossignol found that the discussion strategy of asking high-level questions was significantly associated with the level of student critical thinking although the direction of the relationship was positive for conferences I and III but negative for conference II. Further, she suggested a conceptual relationship between less student talk and student-to-student talk and increased student critical thinking. This finding is contrary to the belief that student participation in discussion as a necessary variable in the facilitation of critical thinking. However, since

the level of discourse was not explicitly described in the study, it is unclear what constituted student talk or student-to-student participation.

In a qualitative study by Platzer, Blake, and Ashford (2000b), they evaluated the effectiveness of reflective practice groups in their nursing curriculum. Over a two-year period, four groups were followed, which consisted of six to ten nursing students and one or two facilitators. The purpose of the group was to have students explore and reflect on their own nursing practice. Individual interviews were conducted and the group sessions were audio and video recorded for data analysis. The researchers reported that many of the students reported that participation in the reflective groups contributed to the development of their critical thinking ability. This finding is not surprising considering reflective thinking is a component of critical thinking. Further, the evaluation of the reflective groups was based on anecdotal self-reports and the development of critical thinking was not measured empirically. Hence, there remains a need to quantitatively explore if the discussion method can enhance the critical thinking abilities of nursing students.

Within the last five years, there has been a trend toward online learning and anecdotal reports surrounding the effectiveness of certain teaching strategies in a virtual environment; more specifically, the effectiveness of online discussions. Harden (2003) described the benefits of web-based discussion groups in a large lecture setting. She believed that the discussion format was a more effective strategy to develop critical thinking than traditional lecture format. Moreover, she felt computer discussion groups would give nursing students the opportunity to formulate their thoughts and share and

learn from each other. Although the students described the online discussions as a beneficial learning activity, the depth and quality of the discussions were not evaluated.

Leppa (2004) also valued online discussions because it gave students the chance to build upon a common text that developed over the course. Further, the online questions could increase in depth and complexity and encourage students toward more sophisticated critical thinking. Leppa also provides anecdotal remarks of how online discussions augment both written and verbal critical thinking skills but did not empirically test her hypothesis. One important point that Leppa did make was that effectively constructed and monitored online discussions could help students progressively develop their critical thinking ability over time.

In a study by Ali, Bantz, and Siktberg (2005), they developed and tested an instrument to assess critical thinking in online responses by Master's degree nursing students. A 10-item Likert scale was used to evaluate the students' individual written responses online; no group work or interactions among the students occurred. Thus, the tool was validated to assess students' written critical thinking ability online but the component of evaluating an online discussion was not studied.

According to Brookfield (1998), the discussion method provides one of the best forums for learners to develop critical thinking. When facilitated authentically, learners engage in a critical examination of "...identifying and externalizing the assumptions underlying their taken-for-granted, common sense ideas and their habitual actions" (Brookfield, 1998, p. 184). This, participants need to engage in the work of the deliberative discussion for critical thinking to be encouraged and promoted. Holt et al. (1998) found their study participants' critical thinking abilities evolved over the course of

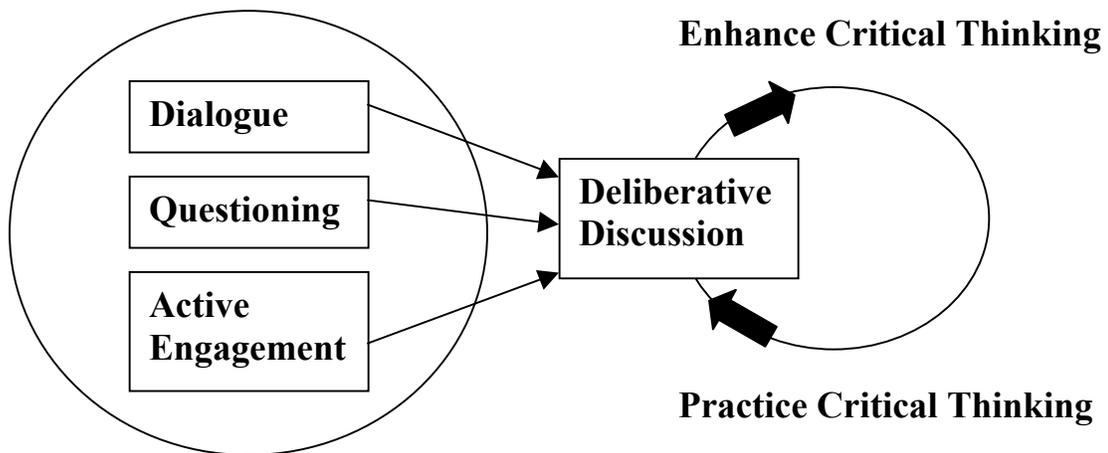
three deliberative discussion sessions. Although critical thinking skill was not empirically tested, they felt that the deliberation process developed by the NIF encouraged participants to use critical and reflective skills.

There is a relationship between the discussion method and critical thinking; although it is primarily based on anecdotal reports and is unclear as to how the discussion methods were conducted, in order to facilitate critical thought. Online discussions are also gaining popularity but also lack an empirical foundation regarding their effectiveness to promote critical thinking among nursing students. Further research is needed to clearly illustrate the relationship of the deliberative discussion method and critical thinking ability among nursing students. Changes in critical thinking needs to be measured quantitatively to determine if using deliberative discussion as a teaching strategy makes a difference in how one thinks.

Nurse educators want to use teaching strategies that promote critical thinking in their nursing students. The discussion method is one such teaching strategy that is believed to foster critical thinking. Because facilitating and sustaining a discussion in a teaching situation is a challenging endeavor, it is not surprising that some nurse educators would find the discussion method too difficult or time consuming to use as an effective teaching strategy. The deliberative discussion method is a structured teaching strategy that is believed to promote higher levels of thinking among students. There remains a need to conduct empirical research to demonstrate the effects of participating in deliberative discussion on one's critical thinking ability.

## Conceptual Framework

Educators today cannot avoid nor dismiss the impact of certain teaching strategies on the critical thinking abilities of learners. Conducting deliberative discussions is one such teaching strategy that is believed to help develop and promote critical thinking among learners. However, it is conceptualized that certain antecedents must be in action for deliberative discussions to occur. Dialogue, questioning, and active engagement are necessary elements of a learning enriched deliberative discussion toward the practice and enhancement of critical thinking (Figure 2.1).



*Figure 2.1.* Conceptual Framework. The practices of dialogue, questioning, and active engagement are mutually interactive and necessary elements of deliberative discussion that allow learners the opportunity to practice and enhance critical thinking.

In order to explore the rationality of this conceptual framework, it is important to explore: (a) Why the elements of dialogue, questioning, and active engagement are

needed for deliberative discussions, and (b) Why deliberative discussions are believed to help develop and enhance critical thinking?

The elements of dialogue, questioning, and active engagement are mutually interactive such that qualities of each overlap and reciprocate each other. The ability to interact and communicate in a purposeful group conversation requires speaking (dialogue, questioning, and active engagement) and listening (active engagement) (Hunkins, 1995). The dialogue is crucial to the discussion as it invites all voices to be heard. In addition to questioning, the dialogue should involve thinking, reflecting, and critiquing (Hunkins, 1995). Even the NIF promotes deliberative discussions as a “different kind of talk”, which implies that the process of deliberation requires dialogue. Dialogue in deliberative discussions strives to promote disequilibrium rather than a simple conversation or exchange of ideas and feelings (Brookfield & Preskill, 1999). Dialogue is a more form and structured kind of talk that focuses on inquiry with more exploration and questioning than conversation (Brookfield & Preskill, 1999). Further, dialogue needs to be an interactive critical conversation for critical thinking to be fostered. (Forneris, 2004). Thus, ‘the talk’ is at the core of the deliberative discussion and consists of the valuable verbal exchanges between participants.

Asking questions is an active learning strategy that can promote critical thinking (Cooper & Simonds, 2003; Oermann, 2004; Phillips & Duke, 2000), depending on the types of questions asked. Further, it is the discussion method that supports the asking of questions (Chilcoat & Ligon, 2001). This element of the conceptual model is highly dependent on the ability of the moderator. For example, if the moderator does not ask the

type of higher-level questions that promote critical thinking, the participants may not have the opportunity to practice their critical thinking during the discussion.

Learners learn to think when questioned during a discussion (Bligh, 2000). The act of questioning can vary from the simple to the complex, which will facilitate a range in thinking from the superficial to the deep and meaningful. Questioning alone has been found to be a useful teaching strategy to help learners think critically (Phillips & Duke, 2000; Wink, 1993). As noted by Chilcoat and Ligon (2001), the discussion method was intended to support students to ask questions freely.

Twibell et al. (2005) acknowledged that in their study of faculty perceptions of critical thinking, nursing faculty needed to know how to pose higher-order questions in order to help students develop their critical thinking. Phillip and Duke (2000) found that clinical faculty was typically more skilled at posing higher level critical thinking questions to nursing students than nursing preceptors in the clinical area, although a higher proportion of lower level questions were also asked. Leppa (2004) found that in a virtual environment, asking questions with increasing sophistication helped students develop their critical thinking. Therefore, nurse educators often ask more low level questions than higher level questions but the intent is to move toward the use of higher level questions.

According to Wink (1993), both lower and higher level of questioning can promote critical thinking. Using Bloom's Taxonomy of Educational Objectives (Bloom, 1956), lower level questions would involve the cognitive areas of knowledge and comprehension while higher-order level of questioning would encompass application, analysis, synthesis, and evaluation. "Lower-level questions are appropriate for assessing

students' preparation and comprehension or for reviewing and summarizing content. Higher-level questions encourage students to think critically and to solve problems" (Davis, 1993, p. 84). Questioning would help challenge learners to critically think by asking them to demonstrate what they know, argue points of view and reflect on critical issues or personal values. Although Wink envisioned the questioning to be educator-lead, it is beneficial in a deliberative discussion session that the act of questioning be shared between the educator and the learners. Hence, when questioning is used in dialogue, it helps to foster active engagement among its learners toward the practice and enhancement of critical thinking during deliberation.

Lastly, active engagement is also essential to deliberative discussions. The promotion of interaction among learners is a 'hallmark' for educators to use to foster critical thinking (Potts, 1994). How the learners are prepared to engage themselves may include completing ancillary work (Hill, 1977) or having a teacher who can role model how to participate in a discussion (Brookfield & Preskill, 1999). Educators need to be prepared that some learners will actively engage in the discussion without any encourage while others will feel more comfortable observing the process. However, the ideal deliberative discussion would have all participants actively engaged in varying degrees. As explained by Brookfield and Preskill (1999), "When a wide variety of learners express themselves, other participants are challenged to consider and digest a diverse range of views. This results in a richer and more memorable learning experience for all (p. 10). Although a disposition to participate in discussions is beneficial, it is the intent of the instructor to foster an environment that allows all the participants' voices to be heard. Thus, providing the opportunity for individuals to participate in the discussion is more

important that relying on individuals who feel comfortable speaking in a group. Engaging participants in their own learning involves engaging them as subjects of their learning (Vella, 1994). The dialogue and action that takes place is solely based on the participants' willingness to contribute to the deliberative discussion.

According to Brookfield (1987), those who critically think possess the ability to question the actions, justifications, and decisions of others and are capable of considering alternatives that may challenge their current belief structures. To develop the qualities of a critical thinker, educators must construct a learning environment that will provide learners with the opportunity to question, scrutinize, challenge assumptions, and weigh all the points of view offered to challenge their current thinking. Hence, it is important to explore why deliberative discussions offer learners the interactive environment needed to practice and enhance their critical thinking abilities.

Deliberative discussions are grounded in the democratic process and the idea of civic participation can lead to social change. The deliberative process is socially constructed through the eyes, minds, and spirits of its participants engaged in the discussion. Inherent to the deliberative process are opportunities for learners to engage in critical thought and the educator can set the stage for deliberative discussion through the use of effective dialogue, questioning, and active engagement.

Dialogue, questioning, and active engagement are the essential elements of a successful deliberative discussion. Through the moderator, the participants become engaged in the discussion by dialoguing and asking questions with one another. The interaction of these elements in the deliberative discussions will provide the participants the opportunity to practice and enhance their critical thinking.

## CHAPTER 3

### DESCRIPTION OF METHODOLOGY

The purpose of the study was to investigate the effects of using deliberative discussion as a means to enhance the critical thinking abilities of Freshman Nursing students. Participation in deliberative discussions facilitates critical dialogue that provides students with the opportunity to practice their critical thinking skills. The following is a description of the research design, sample, instrumentation, data collection procedure, and data analysis procedure.

#### Design of the Study

A pretest-posttest control group experimental design was used in this research study. According to Campbell and Stanley (1963), random assignment of the participants to the treatment or control group is the distinguishing factor of this experimental design over quasi-experimental designs. Further, the use of the pretest-posttest control group design enhances the control of dependent variable measurements and eliminates threats to internal validity such as history, maturation, testing, instrumentation, regression, selection, and mortality (Campbell & Stanley, 1963). Data collector bias was minimized by ensuring that the researcher administered the pretest and posttest similarly, through the use of a written script. The moderator was trained by the NIF and had previous

experience moderating deliberative discussions in the past. The same moderator was used for all three sessions. However, a recorder was used in the first deliberative discussion session but she was unable to attend the second or third sessions. Hence, the moderator acted as his own recorder during those sessions. Two independent scorers used The Holistic Critical Thinking Scoring Rubric to score each deliberative discussion session and were compared to enhance interrater reliability. Intrarater reliability was ensured by having the scorers receive the same scoring instructions and follow the same procedure each time they evaluated a deliberative discussion session.

Threats to external validity such as interaction of testing and treatment, interaction of selection and treatment, reactive arrangements, and multiple-treatment interference were not of concern because the study population consisted of a census. The results of the study pertained to the census of Freshman Nursing students and would not be generalized outside the study.

### *Variables*

This pretest-posttest control group design included two levels of the independent variable and one dependent variable. The independent variable was the participation in the deliberative discussions. Participants were randomly assigned either to participate in the deliberative discussion sessions (treatment group) or the control group. The dependent variable was critical thinking ability. Critical thinking ability was measured by the Freshman Nursing students' scores achieved on the CCTST and CCTDI. Further, the deliberative discussion sessions were video and audio taped to analyze the content and depth of the discussions. The content of the discussions was analyzed by The Holistic Critical Thinking Scoring Rubric (Facione & Facione, 1994).

Control for extraneous variables was primarily accomplished through random assignment of the participants. Hence, extraneous variables such as experiences of college life, variety of college courses, variety of life experiences and/or opportunities to enhance critical thinking would have occurred equally in both groups.

### Population and Sample

The sample included the entire population of all incoming Freshman Nursing students ( $N = 71$ ) into the Baccalaureate Traditional Nursing program at a small Lutheran University in a Midwestern city. Freshman Nursing students were at least 18 years of age and were entering their first semester of study at the university. Out of the 71 Freshman Nursing students, 51 students attended the Nursing Research information session. After the study was explained, 9 students decided not to participate. Hence, the 42 students who remained completed the pretest data at that time. The 21 Freshman Nursing students who did not attend the Nursing Research information session were also contacted via phone, email, or mail folder for consent to participate and 2 out of those 21 students completed the pretest data.

Overall, 44 Freshman Nursing students completed the pretest data and were randomly assigned to either the treatment group ( $n = 22$ ) or control group ( $n = 22$ ). Due to attrition, the number of students in the treatment group was 21 and 20 students were assigned to the control group.

Of the 21 participants randomly assigned to the treatment group, 13 attended the first deliberative discussion, 7 attended the second session, and 5 attended the last session. Due to the overlap of some participants attending two or all three sessions, it was determined that 7 participants attended at least two out of the three sessions.

Freshman Nursing students were sent a letter to their home asking them to consider participating in the research study during Freshman Orientation week, which is the week prior to university classes commencing (Appendix A). With permission from the School of Nursing Dean (Appendix B), participants were asked to attend a Nursing Research information session. Participants who agreed to participate in the study were randomly assigned to either the treatment group (n = 21) or the control group (n = 20). Participants who were randomly assigned to the treatment group were contacted via phone, email, and/or campus mail regarding the deliberative discussion dates, times, and locations.

Approval to conduct the research study was obtained by the Institutional Research Boards of the Ohio State University and Capital University (Appendix C). Participants were also assured that their participation in the study was strictly voluntary and that they had the right to withdraw at any time. All data collected during the research study was stored in a locked metal file cabinet in the home of the investigator and remained strictly confidential.

### Instrumentation

#### *California Critical Thinking Skills Test*

The California Critical Thinking Skills Test (CCTST) Form 2000 consisted of 34 standardized, multiple-choice items designed to measure critical thinking (Appendix D). Each item had one correct answer and three distracters. Scores ranged from 0 to 34 where low scores indicated low critical thinking skills and high scores indicated high critical thinking skills. Form 2000 was a revision of the CCTST Form A and provided item contexts that were more robust in the evaluation of critical thinking (Facione et al., 2002).

Further, a panel of three nursing experts in the field of critical thinking compared the CCTST Form A and CCTST Form 2000 and agree that both forms were comparable and that Form 2000 could measure critical thinking in nursing students. The test took approximately 45 minutes to complete.

The CCTST was developed based on the American Philosophical Association Delphi consensus conceptualization of critical thinking. Based on the multidisciplinary participation of 46 leaders in critical thought, they conceptualized critical thinking as encompassing core dimensions of analysis, inference, explanation, evaluation, and interpretation. The CCTST provided one overall score on one's critical thinking skills and five subscale scores in the areas of: analysis, evaluation, inference, deductive reasoning, and inductive reasoning. However, the subscales of analysis, evaluation, and inference are considered the overarching representation of the core critical thinking skills. For example, each of the CCTST 34 items are distributed among those three subscales while the subscales of inductive and deductive are represented differently. Putting aside the previously mentioned distribution of the 34 items, these 34 items can also be reclassified under the subscale of deductive reasoning or inductive reasoning.

The analysis subscale measured one's ability to examine ideas, identify, and analysis arguments. Analysis items required participants to comprehend, determine the significance, and make meaning of a wide variety of situations and experiences. The evaluation subscale asked participants to assess claims, make justifications, and formulate arguments. Evaluation questions asked for rationales for one's reasoning and logical strength of an argument. The inference subscale required one to question evidence,

speculate alternatives, and draw conclusions. Inference items tested one's ability to consider relevant information needed to formulate reasonable conclusions.

The 34 items could be readily classified as either inductive or deductive, which follows the more traditional conceptualization of reasoning. The deductive reasoning subscale required one to determine the truthfulness of the premises before the validity of the conclusion could be determined as well. The inductive reasoning subscale identified whether the basis of an argument is warranted, regardless of the assumed or proposed truth of its premises.

The CCTST Form 2000 has been documented as being reliable and valid instrument. CCTST Form 2000 is a revision of Form A and was developed to reflect new item formats such as diagrams and charts currently found in basic textbooks and newspapers (Facione et al., 2002). The CCTST Form 2000 retained 22 items from Form A and the items dropped from Form 2000 were compared to the retained items in Form A in a pilot test. The correlation between the scores from Form 2000 and Form A was 0.912 for sample one (n = 101 college undergraduate students) and 0.871 (n = 210 college undergraduate students) (Facione et al., 2002). In addition, Form 2000 was determined to be a more reliable and superior tool than Form A.

The internal consistency reliability of the CCTST Form 2000 reported Kuder-Richardson-20 (KR-20) of .78 and .80. Because Form 2000 was a revision of Form A, Facione et al. (2002) reported the KR-20 of several studies that used Form A as .69, .68, and .70 respectively. Based on the results of these previous studies, Form 2000 KR-20 was estimated of a reliability of .70. In research studies with nursing students that provided the alpha coefficient reliability for the CCTST form A, authors reported

somewhat lower KR-20s of .64 (Rapps et al., 2001), .62 (Spelic et al., 2001), and .61 (Bondy, Koenigseder, Ishee, & Williams, 2001) respectively. However, Facione et al. (2002) concluded that based on the internal consistency reliability, Form 2000 was more reliable than Form A. A KR-20 of .70 or higher is a good indicator for reliability (Fraenkel & Wallen, 2000).

The validity of the CCTST Form 2000 was determined by the presence of content, construct, face, and criterion. According to Facione et al. (2002), content validity was confirmed through the consensual process by the Delphi group. Items on the CCTST were developed based on the universality of the concept of critical thinking as defined by the Delphi experts. Construct validity was tested by examining the extent that the CCTST measured the Delphi group's idea of critical thinking. Facione et al. strengthened construct validity by comparing CCTST scores between two groups of college students; one group who enrolled in a college course in critical thinking and a control group. Students who completed the critical thinking course scored significantly higher on the posttest. Although the CCTST measures general critical thinking skills, more nursing programs have used it as an evaluation tool (Beckie et al., 2001; Colucciello, 1997; Staib, 2003). Similarly, face validity has been achieved through the dissemination of these research studies in nursing and widespread use of the CCTST to measure critical thinking. Criterion validity was established by correlating the CCTST with other measures or external criterion. Facione et al. (2002) reported CCTST correlations with grade point average ( $r=.20$ ), ACT score ( $r=.402$ ), SAT verbal ( $r=.545$  and  $.55$ ) and math scores ( $r=.422$  and  $.44$ ), GRE scores ( $r=.710$ ), and the Watson-Glaser Critical Thinking Appraisal (WGCTA) ( $r=.405$  and  $.544$ ). The most important correlation to note is that of

the relationship between the CCTST and the WGCTA. Although the relationship between the two critical thinking instruments could be described as a moderate relationship (Bartz, 1999), Facione et al. (2002) attributed the lower correlation because the WGCTA was not based on the Delphi's conceptualization of critical thinking. A similar moderate relationship of  $r = .43$  was found between the WGCTA and CCTST in a sample 320 undergraduates that also contained a subset of 126 nursing students (Bondy et al., 2001). Overall, it is believed that if a student experiences a higher level of college success, he/she would demonstrate a similar aptitude in critical thinking (Facione et al., 2002). Thus, both reliability and validity have been well documented for the CCTST.

#### *California Critical Thinking Disposition Inventory*

The California Critical Thinking Disposition Inventory (CCTDI) was a 75-item instrument that assessed one's disposition and habit of mind to critically think (Facione et al., 2001) (Appendix E). Each item response was based on a six-point Likert-type scale ranging from one "Disagree Strongly" to six "Agree Strongly". It is important to note that there was no neutral option because the instrument developers wanted to use a forced choice scale that required respondents to agree or disagree with each item. Each subscale score ranged from 10 up to 60. Total scores on the CCTDI ranged from 70 to 420. The minimum recommended score to indicate positive disposition for each subscale was 40. Total scores below 280 were considered weak in critical thinking disposition while scores higher than 350 indicated a strong disposition toward critical thinking. The instrument took 15 to 20 minutes to complete.

The CCTDI provided one overall score of critical thinking disposition and seven subscale scores in the areas of: truth-seeking, open-mindedness, analyticity,

systematicity, self-confidence, inquisitiveness, and maturity. The truth-seeking scale (the T – scale) measured one’s willingness to pursue the truth rather than the ‘win’ of an argument. Seeking the truth demonstrated an honest and objective attempt to pursue an inquiry that may not support one’s opinions or interests. The open-mindedness scale (the O – scale) was concerned with tolerance and one’s ability to acknowledge the divergent views of others. A participant could be open-minded with regards to one’s right to an opinion but not necessarily truth-seeking and attempting to understand the opinion of others. The analyticity scale (the A – scale) measured one’s inclination to engage in the processes of reasoned inquiry and persist through a problematic situation. One’s alertness to use critical thinking and work through difficulties was essential to this scale. The systematicity scale (the S – scale) measured one’s ability to conduct organized and focused inquiries. Systematic participants approached issues, questions, or problems in an orderly and diligent manner. The self-confidence scale (the C – scale) was concerned with the level of trust associated with one’s reasoning processes. Self-confident participants possessed the disposition to make good judgments and believe others trust their ability to reason as well. The inquisitive scale (the I – scale) measured intellectual curiosity and interest in being generally well-informed. Inquisitive participants valued learning and how things work, even if the outcome was not immediate. The maturity scale (the M – scale) measured disposition toward making reflective judgments. An ability to approach ill-structured problems with many plausible outcomes illustrated qualities of a participant who had cognitive maturity and epistemic development.

A factor analysis was conducted to reduce the description of the critical thinker from 19 factors to the seven current subscales (Facione et al., 2001). In pilot studies

conducted with Freshman college students (n=567) conducted by the instrument developers, alpha reliabilities ranged from .71 to .80 on the subscales and .91 overall for the entire instrument (Facione et al., 2001). In a later sample of 1019 Freshman college students, alpha levels ranged from .60 to .78 on the scales and .90 overall. Similar high alpha reliabilities .80 (Rapps et al., 2001) and .90 (Bondy et al., 2001) were found in research studies with nursing students. Hence, reliability estimates were strong for this instrument.

Each subscale was composed of nine to twelve items on the instrument and all 75 items discriminated to one of the seven subscales. According to Facione et al. (2001), face validity was established by college instructors who completed the CCTDI and disclosed that the items were appropriate to the target dispositions. A panel of nursing experts in critical thinking were asked to review the CCTDI and stated that the instrument did measure critical thinking disposition; thus establishing construct validity. Similarly, another nursing program also supported the construct validity of this tool with their students (Leppa, 1997). The CCTDI also had a positive correlation with the CCTST, which helps to support criterion validity. Facione et al. (2001) reported a correlation of 0.21 (n = 1557) and 0.41 (n = 193). The weak correlation was explained by acknowledging the fact that a participant may be disposed to critical thought but may not be proficient in his/her critical thinking ability (Facione et al., 2001). Further, the relationship between disposition toward critical thinking and one's actual critical thinking skills was reciprocal in nature in the sense that the two qualities reinforced each other (Facione, Giancarlo, Facione, & Gainen, 1995). Hence, there was evidence that the CCTDI was a reliability and valid instrument.

### *Holistic Critical Thinking Scoring Rubric*

Facione and Facione (1994) developed the Holistic Critical Thinking Rubric based on their previous work on the CCTST and CCTDI (Appendix F). The rubric upheld the critical thinking expert consensus statement in the sense that a good critical thinker must demonstrate an ability to analyze, interpret, evaluate, infer, explain, and self-regulate. Further, certain critical thinking dispositions must be in place for an individual to actively engage in the critical thinking process. The rubric was an assessment tool that enabled one to evaluate the overall success in critical thinking in any essay, presentation, or clinical practice setting. The rubric was expressed in four levels where one was the lowest score and four was the highest possible score. Critical thinking was absent at level one; rather, thinking tended to be biased, superficial, poorly substantiated, and close-minded. Level two demonstrated some beginning critical thinking skills such as providing some justification for decisions but also tended to misinterpret much of the evidence. Level three assessed many critical thinking abilities and dispositions. To achieve a score of three, there must have been: accurate interpretations of evidence, relevant arguments be identified, analyses of alternative points of view, the drawing of warranted conclusions, reasoning, and fair-mindedness. To receive a score at the fourth level, almost all of the following characteristics must have been present: accurate interpretations of the evidence, identification of salient arguments, thorough analysis and evaluation of alternative points of views, judicious conclusions, and explanation of assumptions and reasoning. Thinking at level four built upon the thinking of level three and demonstrated consistent critical thought.

Facione and Facione recommended at least two raters per evaluation to achieve consensus on a score. Further, there were no half scores in the rubric and the authors did not support half-level differentiations (Facione & Facione, 1996).

### Procedures

Permission from the Dean of Nursing was obtained to send pre-letters regarding the proposed research study to all incoming Freshman Nursing students one month (beginning of August) prior to Freshman Orientation week. The purpose of this letter was to inform the potential participants of the research topic prior to arrival to the University campus and possibly increase their curiosity regarding participation in the research study.

Freshman Nursing students were asked to attend a Nursing Research information session at the University's Freshman Orientation during the third week of August, 2004 to explain the study, obtain consent to participate in the study (Appendix G) and collect pretest data. Of the 71 entering Freshman Nursing students, 44 students agreed to participate and completed the pretest instruments. Participants were then randomly assigned to either the deliberative discussion treatment group or the control group. Randomization was achieved by putting all the participants' names in a hat and alternating membership to either the treatment or control group, using a random start of the assignment. Participants randomly assigned to the treatment group were asked to participate in a total of three deliberative discussion sessions.

A moderator and a recorder who were trained by the NIF were recruited to conduct the deliberative discussion sessions. Both the moderator and the recorder had previous experience facilitating deliberative discussions, were graduate students in the Workforce Development and Education program at the Ohio State University, and were

paid, external participants to the research study. The same moderator was used for all three sessions but the recorder was only able to attend the first deliberative discussion session. Therefore, the moderator also acted as the recorder during the second and third deliberative discussion sessions. The deliberative discussion sessions were conducted in the same room on the university campus, and scheduled at the same times and days of the week. All of the deliberative discussion sessions were held on a Sunday evening from 7:00pm to approximately 8:30pm. Deliberative discussion sessions were audio and videotaped by the researcher.

Approximately ten days prior to each deliberative discussion session, participants were sent both emails and mailbox reminders of the date, time, and location of the session. Participants were also encouraged to contact the researcher if they had any questions, concerns, or conflicts. Approximately three days prior to the deliberative discussion sessions, the researcher attempted to contact participants by phone to also provide a verbal reminder of the session.

Participants were asked to sign-in at each deliberative discussion by identifying themselves with a five digit self-selected number at the pretest session. This activity helped the researcher determine how many deliberative discussion sessions were attended by each of the participants. Participants who attended at least two out of the three sessions would be included in the study. The posttest would also be administered to all participants within one week of the last deliberative discussion session.

Participants were assured that they could withdraw from the study at any time without any repercussions to their course of study at the university. Confidentiality was maintained throughout the study and the data was stored in a locked cabinet at the

researcher's home. Participation in the study was not associated with any one course or class offered at the university. Furthermore, the researcher, who was also employed by the university, did not teach any Freshman Nursing courses Fall 2004 semester or assume Freshman advising responsibilities.

### *Data Collection*

Data was collected over a 13 week period. Freshman Nursing students who consented to participate were asked to complete at the Nursing Research information session: the consent form, demographic sheet (Appendix H), the CCTST Form 2000 instrument, and the CCTDI instrument. The pretest occurred in a classroom on the University campus. A total of 90 minutes was allotted for the pre-testing session: 15 minutes was provided for the directions for completing the instruments, 15 minutes to complete the CCTDI, 45 minutes to complete the CCTST, and 15 minutes to complete the consent form and the demographic sheet. Each participant was given two computer-scored answer sheets and a medium lead pencil to complete the research instruments and the demographics sheet. The researcher was present during the testing and collected all the forms at the completion of the time period. The completed answer sheets, CCTST Form 2000 booklets, CCTDI booklets, demographic sheets, and consent forms were placed in a locked cabinet to maintain confidentiality. The log of extracurricular activities booklet was also explained and handed out to all the participants. The participants were asked to keep a log of their discussion activities weekly and to return the booklets to the researcher at the posttest session.

Those who agree to participate in the pretest session were randomly assigned to the treatment group or the control group. Participants who were randomly assigned to the treatment group will be contacted via phone, email, and/or campus mail using the University directory. Participants in the treatment group were given an information sheet which included a brief description of the deliberative discussion method, the incentives to participate, and time, date, and location of the three deliberative discussion sessions.

There was a total of three deliberative discussion sessions. The first deliberative discussion session (Week One) was held the second week on September 12th, 2004. The second session (Week Six) was held the second week on October 17th, 2004. The third session (Week Eleven) was held the third week on November 21st, 2004. There were five weeks between the Week One session and the Week Six session and five weeks between the Week Six and the Week Eleven. Each deliberative discussion session was facilitated by a moderator and a recorder assisted with documentation during the first discussion.

All of the public issues to be discussed in the deliberative discussions were developed by the NIF. Although there were many public issues to choose from (see the website [www.nifi.org](http://www.nifi.org)), three health-related topics thought to be of interest to nursing students were selected.

The topic of the first deliberative discussion was entitled, “Examining Health Care: What’s the Public’s Prescription” and focused on health care issues in U.S. society. The moderator outline for this topic is in Appendix J. The second topic was “Alcohol: Controlling the Toxic Spill” and focused on issues surrounding alcohol consumption in society. The moderator outline for this topic can be found in Appendix K. The last deliberative discussion topic was entitled, “At Death’s Door: What are the Choices” and

will focus on patient rights and medical ethics. The moderator guide for this topic can be found in Appendix L. The moderator and recorder followed the NIF guidelines to conduct each of the deliberative discussions

Each deliberative discussion session was approximately one and a half hours in length. Five minutes was allotted at the beginning for informed consent and explanation of the session and the deliberative process. Participants were provided with paper and a pen to take notes if needed. The location of the room was a reserved classroom that could hold at least 25 occupants on the University campus. Each deliberative discussion session was videotaped and audiotaped using University owned equipment from the Information Technology department. Video and audiotapes were stored in a locked metal cabinet at the home of the investigator. Participants received token incentives at the beginning and end of each deliberative discussion session as a way of showing participants that their time and effort was appreciated. Incentives to participate were primarily advertising/recruitment type items from area hospitals. Examples of items that were donated included: canvas bags, T-shirts, backpacks, cooler bags, pens, notepads, coffee mugs, stickers, key chains, desk clocks, and pedometers. Food and beverages were also provided at each of the discussion sessions.

All participants were also asked to keep a log of their extracurricular activities that they were involved with on and off campus over the Fall 2004 semester. The purpose of the log was to determine what types of discussions students were involved in on a daily basis. An extracurricular activity was considered time spent outside a university course that involved discussion with others. This may have included but was not limited to: campus/community organizations, church groups, honor society meetings, clubs,

campus meetings, etc. The students submitted their completed logs at the posttest session at the end of the semester.

The posttest took place one week after the last deliberative discussion session on November 29<sup>th</sup>, 2004. One hour was allotted for participants to complete the posttest. Five minutes was used to explain the instrument and 45 minutes to complete the CCTST Form 2000. Each participant was given the CCTST Form 2000 booklet, a computer-scored answer sheet, and a medium pencil. The researcher stayed during the posttest period and ensured all booklets, answer sheets, and extracurricular logs of activity were collected at the end of the time period. The researcher also met with a few participants individually who could not attend the posttest session November 29<sup>th</sup>, 2004 within a few days after this date to complete the posttest instrument. The CCTST booklets and answer sheets were stored in a locked metal cabinet at the home of the investigator until data analysis was to begin.

#### Data Analysis Procedure

Table 3.1 depicts how each research hypothesis was analyzed and the data source. All data collected on the CCTDI and the pretest-posttest CCTST instruments were submitted to the publishing company, Insight Assessment, to ensure accurate, computerized scoring. Further, Insight Assessment does not make public the answers to the CCTST or CCTDI. The data was analyzed using the Statistical Packages for the Social Sciences (SPSS) version 13.0 for Windows and Microsoft® Excel spreadsheet package (Office 2000). Scores on The Holistic Critical Thinking Scoring Rubric for each deliberative discussion session were generated by two independent scorers and compared to reach interrater reliability. Demographic data was described using descriptive statistics

and represented in percentages and/or frequencies. To provide descriptive statistics on the data sample, the participants were asked questions such as age, sex, high school graduating grade point average (GPA), number of participants with previous academic degrees, and ethnicity. Descriptive statistics concerning the amount of time the participants spent outside a university core that involved discussion with others was also presented.

If the two groups did differ on the CCTST pretest, an analysis of covariance (ANCOVA) would have been conducted. In this case, the pretest would have been considered a covariate and posttest mean scores could have been interpreted with respect to the difference in pretest scores and the degree of relationship between the covariate and the dependent variable (Fraenkel & Wallen, 2000).

The testing of assumptions surrounding the multivariate analysis of multiple regression was completed. To determine if the assumptions regarding residuals were met, the data was assessed for any assumption violations. The assumptions about the residuals that were assessed were determining that: the residuals had a mean of zero; the residuals were independent; residuals were normally distributed; the residuals had constant variance; and the residuals were not correlated with independent variables (Hair, Anderson, Tatham, & Black, 1998). If the residuals were determined to be independent and the assumptions were met, no violations would be found. Multicollinearity was assessed by looking at the correlation matrix and Tolerance and VIF calculations in the multiple regression.

Research Hypothesis	Data Source	Method of Analysis
H <sub>1</sub> : Freshman Nursing students who participate in the deliberative discussion group will differ in critical thinking scores on the CCTST than those in the control group.	CCTST	t-test for independent groups
H <sub>2</sub> : Freshman Nursing students in the deliberative discussion group will differ on the CCTST posttest than on the CCTST pretest.	CCTST	t-test for independent groups
H <sub>3</sub> : Freshman Nursing students' critical thinking dispositions will be positively correlated with their critical thinking skills on the CCTST pretest and CCTST posttest.	CCTDI CCTST	Pearson Product Moment Correlation
H <sub>4</sub> : Freshman Nursing students' CCTST posttest scores can be explained by the linear combination of the independent variables of CCTDI, HS GPA, ACT score, and deliberative discussion participation.	CCTST Posttest CCTDI HS GPA ACT score Discussion group	Multiple Regression
H <sub>5</sub> : Freshman Nursing students who participate in the deliberative discussion group will increase the quality of their critical thinking from the first session to the last session.	The Holistic Critical Thinking Scoring Rubric	Cohen's Kappa

Table 3.1: Data Analysis Procedure Summary

### *Ethical Considerations*

It was important to consider the ethical implications of the proposed research study. The research study was reviewed by the institutional review boards of Capital University and The Ohio State University. The participants in this study were not at risk

for any physical or psychological harm. Participants could have experienced some psychological discomfort during the pretest and/or posttest procedures related to the pen and paper testing environment. Informing the participants that their test scores would remain confidential and would not affect their standing/progress at the university may have alleviated any anxiety or discomfort associated with the testing situation.

Participants had the right to refuse or withdraw from the study at any time without any repercussion to their academic progress at the university. Participants were informed that they could find out their individual scores on the CCTST and the CCTDI at the end of the study. If the findings indicated low disposition to critical thinking and/or low critical thinking skills for the Freshman Nursing student population as a whole, steps may be taken to discuss with the participants as to how they can improve their own critical thinking ability.

Incentives were used as a means to reward participants for their time and effort in the research study. It was believed that providing a token of appreciation in advance helps to establish trust with the participants (Dillman, 2000). Participants were given token incentives at the pretest session, all the deliberative discussion sessions, and at the posttest session. Token incentives consisted of donated advertisement/recruitment items from area health care agencies such as canvas bags, T-shirts, backpacks, pens, note pads, key chains, coffee mugs, pedometers, or any other items of interest to Freshman Nursing students.

### Summary

Experimental research was used to determine the effects of using the deliberative discussion method teaching strategy to enhance the critical thinking abilities of Freshman

Nursing students. The independent variable was the participation in deliberative discussion and the dependent variable was critical thinking ability. The target population was the census of Freshman Nursing students who were at least 18 years of age and entering their first semester of study at the university. The instruments used in this study were the CCTST Form 2000, the CCTDI, and The Holistic Critical Thinking Scoring Rubric. The data results were calculated by the publishing company Insight Assessment. The data was analyzed using descriptive statistics and the statistical program SPSS. The results of this research study will be discussed in Chapter Four.

## CHAPTER 4

### RESEARCH FINDINGS

The purpose of this study was to investigate the effects of using deliberative discussion as a teaching strategy to enhance the critical thinking abilities of Freshman Nursing students. A pretest-posttest control group experimental design was used to determine if there were differences between subjects who participated in the deliberative discussion sessions and subjects who were in the control group. In this chapter, the findings of this study are presented. Following the description of the research participants, each research question will be addressed using the data analysis techniques of t test, Pearson Product Moment correlations, multiple regression, and Cohen's Kappa. A summary of the research findings will be offered at the end of this chapter.

#### Description of the Participants

The population of Freshman Nursing students (N = 71) from a small Lutheran University in a Midwestern city were invited to participate. Pretest data was collected on 44 Freshman Nursing students but due to attrition, 58 % participants (n = 41) agreed to participate. After the pretest session, 21 participants were randomly assigned to the treatment group and 20 participants to the control group. Overall, 14 out of the 21 participants in the treatment group attended at least one deliberative discussion. However,

inclusion criteria required participation in at least two out of the three deliberative discussion sessions; thus reducing the treatment group to 7 participants who attended two or more sessions and completed posttest data.. Similarly, 16 out of 20 participants randomly assigned to the control group completed the posttest data. Altogether, 32% of the Freshman Nursing student population completed all the participant requirements; down from the original 58% who agreed to participate.

Participant characteristics between the treatment (n = 7) and the control group (n = 16) were similar in various aspects (Table 4.1). The percentage of males and females in each group were similar; the treatment group comprised of 6 females and 1 male while the control group comprised of 14 females and 2 males. Mean age for both groups were 18.3 and 18.9 years of age respectively. All the participants were Caucasian and did not hold any previous college or university degrees. Approximately one third of the participants in each group had previous college course experience.

<u>Groups</u>	<u>n</u>	<u>Sex</u>		<u>Age</u>		<u>Previous College Course Experience</u>	
		F(%)	M(%)	Mean	Range	Yes(%)	No(%)
Treatment	7	86	14	18.3	18-19	29	71
Control	16	88	12	18.9	17-26	31	69

Table 4.1: Description of Sample

A t-test was used to show that the participants did not differ with respect to high school GPA, ACT Score, CCTDI score, and CCTST pretest scores. The mean high school GPA for the treatment and control group was 3.7 and 3.6 respectively and the mean ACT score was 22.9 and 23.9 respectively. Participants also did not differ in scores on CCTDI or the CCTST pretest. Therefore, the groups were assumed to be equivalent at the pretest and did not differ significantly.

	<u>Treatment (n = 7)</u>		<u>Control (n = 16)</u>		t	p
	Mean	SD	Mean	SD		
H.S. GPA	3.69	.376	3.56	.375	-.751	.461
ACT Score	22.86	.334	23.88	.268	.779	.445
CCTDI	304.86	26.91	301.5	16.35	-.371	.714
CCTST Pretest	16.14	4.67	17.00	3.08	.525	.605
CCTST Posttest	15.57	5.22	17.00	3.01	.834	.413

Table 4.2: Comparing Means Between Treatment and Control Groups

Fourteen logs of extracurricular activities booklets were returned at the posttest session; 5 out of 7 booklets were completed in the treatment group and 9 out of 16 booklets were completed in the control group. Types of discussion activities that participants engaged in outside a university course either on or off campus were similar across both groups. Examples of situations where discussion activities occurred included: residence hall meetings, nursing organization meetings, volunteerism, church organizations, study circles/workshops, political debates, student government, tutoring,

and advocacy organizations. The total amount of discussion time recorded varied greatly among the participants. Some participants recorded as little as 230 minutes in extracurricular discussion activities during the Fall 2004 semester while another participant recorded 4245 minutes. Nevertheless, the mean amount of time of extracurricular discussion activities was 1643 minutes for the treatment group and 1302 minutes for the control group. Because not all the participants completed the booklets and the groups were unequal, the subjective data provided from the booklets provided further descriptions of other discussion activities participants engaged in and were deemed similar across both groups.

## Findings

### *CCTST Scores Between the Treatment and Control Group*

The first research hypothesis stated Freshman Nursing students who participate in the deliberative discussion group will differ in critical thinking scores on the CCTST from those in the control group. A test-retest reliability coefficient was calculated for the CCTST between the treatment and control group. The reliability coefficient between the CCTST pretest and posttest for the treatment group was .619 ( $p < 0.05$ , two-tailed) and .946 ( $p < 0.01$ , two-tailed) for the control group. Thus, the CCTST Form 2000 was a reliable measure from the participants' pretest session and again 13 weeks later at the posttest session.

Using a t-test for independent groups and an alpha set at the 0.05 level (two-tailed), Table 4.2 illustrated that there were no significant differences between the treatment and the control group on the CCTST pretest ( $p = .605$ ) or the CCTST posttest ( $p = .413$ ). Both groups were compared for differences on the pretest CCTST subscales of

Analysis, Inference, and Evaluation (Table 4.3) and Deductive and Inductive Reasoning (Table 4.4). Using the t-test for independent groups and an alpha set at the 0.05 level (two-tailed), no differences were found between the treatment and control group on the various subscales. Both groups' critical thinking abilities as measured by the CCTST were the same at the pretest and thus, an Analysis of Covariance (ANCOVA) was not needed. However, no changes in critical thinking ability were noted between the groups at the posttest either. Therefore, critical thinking ability remained constant over the 13 weeks for both groups.

Sub Scale	Treatment (n = 7) Mean	Control (n = 16) Mean	t	p
Analysis	4.43	4.69	-.522	.607
Inference	7.71	7.50	.224	.825
Evaluation	4.00	4.81	-1.135	.269
Total	16.14	17.00	-.525	.605

Table 4.3: Comparison of Pretest CCTST Sub-Scale Scores Analysis, Inference, and Evaluation Between Treatment and Control Groups

Sub Scale	Treatment (n = 7) Mean	Control (n = 16) Mean	t	p
Deductive Reasoning	7.43	6.75	.614	.546
Inductive Reasoning	8.71	10.25	-1.732	.098
Total Scale	16.14	17.00	1.499	.234

Table 4.4: Comparison of Pretest CCTST Sub-Scale of Deductive and Inductive Reasoning Between Treatment and Control Groups

Both groups were also compared for differences on the posttest CCTST subscales of Analysis, Inference, and Evaluation (Table 4.5) and Deductive and Inductive Reasoning (Table 4.6). Using the t-test for independent groups and an alpha set at the 0.05 level (two-tailed), no differences were found between the treatment and control group on the various subscales.

Sub Scale	Treatment (n = 7)		Control (n = 16)		t	p
	Mean	SD	Mean	SD		
Analysis	4.57	1.40	4.94	1.40	-.581	.568
Inference	7.14	2.61	8.19	1.94	-1.071	.296
Evaluation	3.86	2.55	3.88	1.26	-.023	.982
Total	15.57	5.22	17.00	3.01	-.834	.413

Table 4.5: Comparison of Posttest CCTST Sub-Scale Scores Analysis, Inference, and Evaluation Between Treatment and Control Groups

Sub Scale	Treatment (n = 7)		Control (n = 16)		t	p
	Mean	SD	Mean	SD		
Deductive Reasoning	7.00	3.37	7.75	1.81	-.701	.491
Inductive Reasoning	8.57	3.05	9.25	1.77	-.677	.506
Total Scale	15.57	5.22	17.00	3.01	-.834	.413

Table 4.6: Comparison of Posttest CCTST Sub-Scale Scores of Deductive and Inductive Reasoning Between Treatment and Control Groups

The findings from this study for the first hypothesis suggest that the participants in the deliberative discussion group did not differ from the control group on either the pretest or posttest CCTST. Further examination of the subscales of the CCTST between the two groups revealed no differences on the subscales of Analysis, Inference, Evaluation, Inductive Reasoning, or Deductive Reasoning. Just as there was no difference in the total CCTST pretest and posttest scores between the treatment and control group, the subscales did not provide further information regarding differences in critical thinking ability.

#### *CCTST Scores Within the Treatment Group*

The second research hypothesis stated that the Freshman Nursing students in the deliberative discussion group will differ on the CCTST posttest than on the CCTST pretest. Using a t-test for independent groups and an alpha set at the 0.05 level (two-tailed), Table 4.7 illustrated that there were no significant differences between the CCTST pretest and the CCTST posttest scores within the treatment group ( $p = .833$ ). It should also be noted that the mean scores on the CCTST pretest and posttest for the

control group remained the same. Critical thinking ability as measured by the CCTST remained unchanged even though the treatment group participated in the deliberative discussion sessions.

<u>Group</u>	<u>CCTST Pretest</u>		<u>CCTST Post Test</u>		t	p
	Mean	SD	Mean	SD		
Treatment (n = 7)	16.14	4.67	15.57	5.22	.216	.833
Control (n = 16)	17.00	3.08	17.00	3.01	.000	1.00

Table 4.7: Differences Between Students' Pre and Post CCTST Scores By Group

The findings from this study for the second hypothesis suggest that the participants in the deliberative discussion group did not significantly differ from the pretest CCTST to the posttest CCTST. The treatment group CCTST mean score did decrease marginally but was not found to be significant ( $p = .833$ ). The control group mean CCTST scores did not change from the pretest to the posttest.

*The Relationship Between the CCTDI and the CCTST*

The third research hypothesis stated that the Freshman Nursing students' critical thinking dispositions will be positively correlated with their critical thinking skills on the CCTST pretest and CCTST posttest. The Pearson r was calculated for all Freshman Nursing students in the study ( $n = 23$ ) between the CCTDI and CCTST scores. The correlation coefficient calculated between the CCTDI and the CCTST pretest was  $r = 0.321$  ( $p > 0.05$ ) and between the CCTDI and the CCTST posttest was  $r = 0.193$  ( $p >$

0.05). There was a higher correlation between the two critical thinking instruments in the treatment group. The correlation coefficient calculated between the CCTDI and the CCTST pretest was  $r = .431$  ( $p > 0.05$ ) and again with the CCTST posttest was  $r = .318$  ( $p > 0.05$ ). The control group correlations were also not significant.

The findings from this study for the third hypothesis suggest that the CCTDI total score was positively correlated with the Freshman Nursing students' CCTST pretest and posttest scores, although not significant at the 0.05 level. This was also true for both the treatment and control group correlations. Therefore, the effect of participating in the deliberative discussion sessions had no influence on these findings.

#### *Variables Used to Explain CCTST Posttest Scores*

The fourth research hypothesis stated that Freshman Nursing students' CCTST posttest scores could be explained by the linear combination of the independent variables of CCTDI, HS GPA, ACT score, and deliberative discussion participation. The Pearson Product Moment Coefficients of Correlation are shown in Table 4.8.

Variables	<u>Intercorrelations</u>				Y	Mean	SD
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>			
Deliber. Discuss.* (X <sub>1</sub> )	1.00	.16	.08	-.17	-.18	.30	.470
H.S. GPA (X <sub>2</sub> )		1.00	-.19	.50	.21	3.60	.3718
CCTDI (X <sub>3</sub> )			1.00	.09	.19	302.52	19.554
ACT Composite (X <sub>4</sub> )				1.00	.50	23.57	2.858
Post Test CCTST (Y)					1.00	16.57	3.752

Table 4.8: Summary Data: Regression of Posttest CCTST Scores on Selected Variables (n = 23)

\*Dummy variable 1 = in discussion group, 0 = in control group

Overall, the Pearson r found that the strength of the relationship among the variables to be weak, with the correlations ranging from  $r = -.17$  to  $.50$ . However, a significant relationship was found between two pairs of variables. The correlation between the independent variables H.S. GPA and ACT score was significant at the 0.05 alpha level with  $r = .50$  ( $p = 0.014$ , two-tailed). In addition, the correlation between the independent variable ACT score and the dependent variable CCTST posttest was significant at the 0.05 alpha level with  $r = .50$  ( $p = 0.014$ , two-tailed). High correlations among the variables (0.70 or higher) are indicative of a problem with multicollinearity and are not of concern with the present data. Results of the multiple regression analysis can be found in Table 4.9.

Step Variables	R <sup>2</sup>	F
Model 1	.032	.696
Deliberative Discussion		
Model 2	.288	1.821
Deliberative Discussion		
ACT Score		
CCTDI		
H.S. GPA		

Table 4.9: Multiple Regression Analysis Explaining CCTST Posttest Score on Selected Variables

Multiple regression analysis was conducted by using a hierarchy entry of the independent variables. According to the calculated coefficient of determination in Model 1 (R<sup>2</sup>), 3% of the differences in CCTST posttest scores in Freshman Nursing students could be attributed to deliberative discussion alone. Model 2 included all the independent variables and accounted for 29% of the differences in CCTST posttest scores in Freshman Nursing students. The full model was not significant at the 0.05 alpha level (F = 1.821, p = .169). The higher the value of R<sup>2</sup>, the greater explanatory power of the regression equation and the better the prediction of the CCTST posttest scores. Therefore, The full model demonstrated a weak ability to explain the variability in the CCTST posttest scores by knowing something about the independent variables in the equation. The relative contribution of each independent variable to the multiple regression equation can be found in Table 4.10.

Analysis of the assumptions regarding the residuals revealed that the residuals were independent and no violations were determined. The tolerance values ranged from

.615-.882 and the VIF values ranged from 1.134-1.626; thus indicating no problems of multicollinearity in the multiple regression analysis.

Variables	b	Beta	t	Sig.
Deliberative Discussion	-.988	-.124	-.577	.571
ACT Score	.588	.448	1.793	.090
CCTDI	.032	.169	.799	.435
H.S. GPA	.384	.038	.150	.882
(Constant)	-8.192			

Table 4.10: Regression of Posttest CCTST Scores on Deliberative Discussion, High School GPA, CCTDI, and ACT Composite

None of the t values in Table 4.10 were significant at the 0.05 alpha level.

However, out of all the independent variables in the model, ACT score played the largest role in predicting CCTST posttest scores: Beta = .448,  $t(23) = 1.793$ ,  $p < 0.10$ . Using the remaining Beta coefficient as a basis of standardized comparison, the next independent variables that had the greatest influence after ACT score would be CCTDI (Beta = .169,  $t(23) = .799$ ,  $p = .435$ ), deliberative discussion participation (Beta = -.124,  $t(23) = -.577$ ,  $p = .571$ ), and H.S. GPA (Beta = .038,  $t(23) = .150$ ,  $p = .882$ ) respectively. According to the Beta coefficient data, participation in deliberative discussion negatively contributes to the multiple regression equation and the prediction of the CCTST posttest scores.

The findings for this study for the fourth research hypothesis suggest that the full model of the multiple regression analysis can account for 29% of the differences in the CCTST posttest scores of Freshman Nursing students based on the linear combination of the independent variables of deliberative discussion participation, ACT score, CCTDI, and H.S. GPA. Although the model was not significant, a significant correlation was found between ACT score and the CCTST posttest score. ACT score was also the independent variable that contributed the most to the multiple regression equation toward the explanation of the Freshman Nursing students' CCTST posttest scores.

When the dependent variable deliberative discussion participation was entered into the model first, the treatment alone accounted for 3% of the differences in the Freshman Nursing students' CCTST posttest scores. Therefore, participating in deliberative discussion sessions is a poor predictor of how one would score on the CCTST posttest.

#### *Critical Thinking in the Deliberative Discussion Sessions*

The fifth research hypothesis stated that Freshman Nursing students who participate in the deliberative discussion group will increase the quality of their critical thinking from the first session to the third session. The quality of critical thinking was measured using The Holistic Critical Thinking Scoring Rubric (HCTSR). Cohen's Kappa could not be calculated because of one of the rater's scores was a constant across all three deliberative discussion sessions and lacked variability. The raters achieved 67% agreement on the scores they provided for each session. The first rater assigned deliberative discussion session one and session two a HCTSR score of 3 and assigned session three a score of 2. The second rater assigned all three sessions a score of 3 each.

The raters scored the first and second deliberative discussion similarly at a high level of critical thinking. The third session received different scores by each of the raters; scores of 2 and 3. Critical thinking scored as a 3 is more indicative of a higher quality of critical thinking ability than a score of 2. Thus, the third deliberative discussion session received a lesser score than the two previous sessions although this change in scores is probably not significant.

Perhaps the way in which the quality of the session was evaluated should be questioned. According to Facione and Facione (1996), the HCTSR was an effective measure of critical thinking in observable situations. The two raters of the HCTSR were trained how to use the instrument and instructed to also take notes while viewing the discussions on videotape. A post-evaluation sessions was arranged with each of the raters to discussion their scores for each session. The one rater who specifically assigned a lower score of 2 for the last session explained that the quality was notably decreased from the first two sessions which were both given a score of 3. The second rater felt that the sessions were at the same quality of critical thinking from the first until the third and were all given a score of 3.

Therefore, in light of the high agreement between the raters and indication that there was evidence of high critical thinking in all three sessions (although the third session received both a score of 2 and 3), the findings are misleading. There is evidence that a critical discussion evolved within each of the sessions. The last session did not receive 100% agreement between the raters but group size and the unfamiliar NIF topic selected may have contributed to a lesser quality of discussion.

One assumption made clear at the beginning of this research study was that participants would put forth the effort to fully participate in the deliberative discussion sessions. Participation alone has been considered an insufficient condition for learning while the richest learning experiences come from the interaction generated with fellow students (Cross, 2002). The National Issues Forum (NIF) format is conducive to encourage active participation and vigorous discussion among its members (Gastil, 2004). Participants were observed participating but were not necessarily ‘mutually engaged’ with one another during each deliberative discussion session. One rater of the HCTSR commented that the participants interacted more with the moderator on a one-to-one discussion rather than with each other. This development could be attributed to the participants being unfamiliar with the deliberative discussion format and the expectation that an interactive dialogue should occur. Further, the size of the discussion group dwindled from 14 participants at session one to 7 participants at session two and finally 5 participants at session three. Although five members to a discussion group were considered suitable (Brookfield & Preskill, 1999; Burkhalter et al., 2002), participants might have felt more comfortable dialoguing with the moderator rather than with one another. Therefore, not only does participation take concerted effort, all participants need adequate opportunity to contribute to the discussion and promote an atmosphere of mutual respect (Burkhalter et al., 2002). No one participant dominated the discussion which can sometimes be a concern but on the other hand, everyone did speak and contributed their own thoughts and ideas. The moderator was also observed encouraging all participants to contribute and engage in the discussion. Other variables to consider as barriers to the participants not becoming mutually engaged include: participant fatigue;

not enough time for critical thinking to develop in the participants; and participant's need for more experience in the deliberative discussion process.

Although the role of the moderator is considered slightly different to that of a group facilitator, the ability to encourage dialogue is quintessential. The moderator in this research study was skilled at moderating deliberative discussions and following the NIF format. Because the deliberative discussion recorder was absent during session two and three, the moderator also needed to assume this role. Since the moderator had to write down the group's comments in addition to moderating the session, flow of the discussion might have been impeded.

The moderator was observed asking lower and higher level questions during the deliberative process and allowed participants time to think and encouraged dialogue with each other. In addition to using skilled questioning, the moderator also needed to also probe the participant's thinking and use other non-questioning alternatives such as active listening, paraphrasing, using wait time, etc. The moderator was observed using both verbal and non-verbal cues during the discussions and effectively moved the participants through the deliberative process. Over the course of three discussion sessions, the moderator was able to establish a rapport with the participants and provided a safe and comfortable environment for the discussions to unfold. Therefore, the skill level of the moderator is essential toward the success of the deliberative discussion to provoke critical thought.

The deliberative discussion method has never been empirically tested as a teaching strategy, let alone evaluated for its ability to enhance critical thinking. The NIF format helped to maintain the purpose of the discussions and successfully moved the

participants through the deliberative process. The topics selected for the discussions were health related issues and broad enough that the participants would have had some knowledge or experience in each of the topics. The one session that evaluated the Freshman Nursing students' quality of critical thinking as decreased was surrounding the issue entitled "At Death's Door"; a forum regarding end of life choices and issues. Therefore, coupled with the fact that the group was reduced to five members, the students may have had difficulty relating to the issue at hand and may have been less motivated to participation in deliberation.

According to Brookfield (1987), group members who identify and challenge their assumptions and explore alternative ways of thinking would be developing their critical thinking ability. The gathering of participants with similar backgrounds of like ages and experiences may have proven to be challenging to spark a lively deliberative discussion. A 'homogeneity of opinion' on discussion issues (Brookfield, 1998, p. 176) would be likely as the participants were all traditional Freshman Nursing students approximately 18 years of age. Therefore, it would have been difficult for participants to challenge their own habitual ways of thinking and engage in self-scrutiny if the group's thinking as a whole was similar. To facilitate the challenge of the status quo, participants need to take into account the values and beliefs of persons unlike themselves (Burkhalter et al., 2002). Fortunately, the NIF format offers three or four approaches to each discussion issue so participants will be exposed to all perspectives of the issue, other than their own opinion.

The findings for the fifth research hypothesis suggest that the Freshman Nursing students' quality of critical thinking did not increase from the first session to the third session. Rather, one rater scored the quality as decreased from a score of 3 to 2 as

measured by the HCTSR. The second rate scored the last session as the same quality found in the first and second sessions. Further, 67% agreement was achieved between the raters on the scores provided on the quality of critical thinking in each of the deliberative discussion sessions.

### Summary

The findings from this study are summarized below:

- H<sub>1</sub> – Freshman Nursing students who participated in the deliberative discussion group did not significantly differ on the CCTST pretest or posttest with those in the control group. Further examination of the subscales of the CCTST between the two groups revealed no differences on the subscales of analysis, inference, evaluation, inductive reasoning, or deductive reasoning.
- H<sub>2</sub> – Freshman Nursing students in the deliberative discussion group did not significantly differ from the CCTST pretest to the CCTST posttest. The treatment group CCTST mean score did decrease marginally but was not found to be significant. The control group mean CCTST scores did not change from the pretest to the posttest.
- H<sub>3</sub> – Freshman Nursing students' critical thinking dispositions as measured by the total score on the CCTDI was positively correlated with their critical thinking skills on the CCTST pretest and posttest, although not significant at the 0.05 alpha level.. The effect of participating in the deliberative discussion sessions had no influence on the strength of the correlation between the variables
- H<sub>4</sub> – Twenty-nine percent of the differences in the Freshman Nursing students' CCTST posttest scores can be explained by the linear combination of the

independent variables of CCTDI, H.S. GPA, ACT score, and deliberative discussion participation. Although the multiple regression model was not significant, a significant correlation was found between ACT score and the CCTST posttest score. ACT score was also the independent variable that contributed the most to the multiple regression equation toward the explanation of Freshman Nursing students' CCTST posttest scores.

- H<sub>5</sub> – Freshman Nursing students who participated in the deliberative discussion group did not increase the quality of their critical thinking, as measured by the Holistic Critical Thinking Scoring Rubric, from the first session to the last session. Rather, the first and second session were rated at the same or at a higher level of critical thinking than the third session.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to present the research findings, major conclusions, and recommendations of the present research study. Following a brief summary of the study purpose, design, and findings, conclusions regarding practical and theoretical implications in light of the research study will be drawn. Limitations and recommendations for future research will be suggested. Concluding remarks will also be offered at the end of the chapter.

#### Summary of Research

##### *Purpose of the Study*

Nurse educators need to prepare today's graduates to be dynamic critical thinkers. Thus, nurse educators are challenged to identify what teaching strategies best facilitate critical thinking abilities among nursing students. The purpose of this research study was to investigate the effects of using the deliberative discussion method teaching strategy to enhance the critical thinking abilities of Freshman Nursing students. The independent variable was the participation in deliberative discussion and the dependent variable was critical thinking ability. By participating in deliberative discussions, Freshman Nursing students will have the chance to practice and enhance their critical thinking abilities. It is

important for nursing students to have many opportunities throughout their nursing curriculum to learn how to critically think and be able to apply their higher thinking abilities in their profession.

### *Study Design*

A pretest-posttest control group experimental design was used in this research study to determine if there were differences between participants who participated in the deliberative discussion sessions and those in the control group. All incoming Freshman Nursing students (N = 71) in a Baccalaureate Traditional Nursing program at a small Lutheran University were invited to participate.

Participants' names were placed in a hat and were randomly assigned either to the deliberative discussion group (treatment) or the control group. Pretest data included the completion of the pretest California Critical Thinking Skills Test (CCTST) Form 2000, the California Critical Thinking Disposition Inventory (CCTDI), and demographics sheet. All participants were also asked to keep a log of their extracurricular activities to determine what types of discussions they were involved in on a daily basis and to control for extraneous participation in other discussion activities. Participants in the treatment group attended three deliberative discussion sessions over a 13 week period. After the last deliberative discussion, all participants completed the CCTST posttest and returned their extracurricular activities log booklets.

### *Findings*

The hypotheses supported the main research question which was: What effect does the deliberative discussion method have on Freshman Nursing students' critical

thinking abilities? The following section will summarize the major research findings by addressing each hypothesis statement.

*CCTST Scores Between the Treatment and Control Group.* The first research hypothesis stated Freshman Nursing students who participate in the deliberative discussion group will differ in critical thinking scores on the CCTST from those in the control group. There were no differences in CCTST pretest or posttest scores between the groups. Further examination of the subscales of the CCTST between the two groups revealed no significant differences on the subscales of analysis, inference, evaluation, indicative reasoning, or deductive reasoning.

*CCTST Scores Within the Treatment Group.* The second research hypothesis stated that the Freshman Nursing students in the deliberative discussion group will differ on the CCTST posttest than on the CCTST pretest. There were no differences from the CCTST pretest to the posttest. Rather the group's mean score did decrease marginally from the pretest to the posttest but was not found to be significant.

*The Relationship Between the CCTDI and the CCTST.* The third research hypothesis stated that the Freshman Nursing students' critical thinking dispositions will be positively correlated with their critical thinking skills on the CCTST pretest and CCTST posttest. The group's CCTDI total score was positively correlated with their critical thinking scores on the CCTST pretest and posttest, although not significant at the 0.05 alpha level. The effect of participating in the deliberative discussion sessions had no influence on the strength of the correlation between the variables.

*Variables Used to Explain CCTST Posttest Scores.* The fourth research hypothesis stated that Freshman Nursing students' CCTST posttest scores could be explained by the linear combination of the independent variables of CCTDI, high school GPA, ACT score, and deliberative discussion participation. Model 1 of the multiple regression analysis could account for 29% of the differences in the CCTST posttest scores based on the linear combination of CCTDI, high school GPA, ACT score, and deliberative discussion participation. A significant correlation was also found between ACT score and the CCTST posttest score. ACT score was also the independent variable that contributed the most to the multiple regression equation toward the explanation of Freshman Nursing students' CCTST posttest scores.

*Critical Thinking in the Deliberative Discussion Sessions.* The fifth research hypothesis stated that Freshman Nursing students who participated in the deliberative discussion group will increase the quality of their critical thinking from the first session to the third session. The group did not increase their quality of critical thinking as measured by the Holistic Critical Thinking Scoring Rubric (HCTSR), from the first session to the last session. Rather, the first and second sessions were rated at the same or at a higher level of critical thinking than the third session.

### Conclusions

The empirical data presented in the study's findings indicated that participation in deliberative discussions over a 13 week period did not increase the critical thinking abilities of Freshman Nursing students, as measured by the CCTST. In light of these results, it is important to explore possible explanations as to why participants' critical

thinking abilities were not enhanced after participating in the deliberative discussion sessions.

### *The Effect of Deliberative Discussion on Critical Thinking*

The Freshman Nursing students who participated in the deliberative discussion group did not significantly differ in their critical thinking abilities from those in the control group at the pretest or the posttest. Further, the deliberative discussion group participants' critical thinking abilities did not significantly change over the 13 week time period from the CCTST pretest to the CCTST posttest. There are a number of possible explanations that should be explored to determine why critical thinking did not change as a result of the teaching intervention.

*Changes in Critical Thinking Over Time.* The timeframe of 13 weeks was not long enough to see measurable changes in critical thinking among the Freshman Nursing students. This assertion was confirmed by Tanner (2005) who stated that critical thinking is a fixed trait that is not subject to produce changes in a specific amount of time. Thus, it is conceivable that the amount of time passed from pretest to posttest was insufficient to develop critical thinking ability. Further, not everyone develops their critical thinking ability at the same rate (Ignavaticius, 2004). Some researchers have also suggested that perhaps a longitudinal approach to studying changes in critical thinking might be more appropriate (Adams, 1999; Rapps et al., 2001). However, it would be difficult to identify a suitable timeframe, whether it be months or even years, to be able to measure growth in critical thinking among the participants.

Current instruments used to measure critical thinking may not be sensitive to small changes. The CCTST and the CCTDI have been criticized as not being able to

measure critical thinking in nursing students; rather, the instruments are better served for generic college students. Therefore, it is not known if the time period was not long enough for growth in critical thinking to occur or if the CCTST was not sensitive enough to detect small changes in critical thought.

The use of generic critical thinking instruments may not be enough to measure growth in critical thinking. Evidence of critical thought might be best detected through the evaluation of the students' spoken or written words. This evaluative technique may give educators a better idea the students' level of critical thinking and be able to identify small changes in the students' written work or verbal expression of critical thought. Of course key to this measurement of critical thought would be the educator's continued diligence to evaluate the students' critical thinking ability over the course of the semester and in every encounter with the students in subsequent course work. Educators within the curriculum would need to communicate among themselves to share in the students' progress in critical thinking ability from course to course and year to year. Thus, it would be essential to incorporate opportunities for students to practice critical thinking throughout their studies and not limit it to one or two exposures in a few course assignments. Multiple exposures to teaching strategies that promote critical thinking would probably be the most ideal learning situation for students.

*Insufficient Experience With Deliberative Discussions.* Participants in the treatment group came to three deliberative discussions over a 13 week period. It was believed that the first discussion would serve as an introduction to the teaching method, the second discussion would allow participants to practice deliberation, and in the third session, participants would demonstrate a proficient ability in deliberative discussion.

Similar to how it is believed that students cannot learn to critically think in one teaching situation, learning how to effectively participate in deliberative discussions cannot be limited to a few exposures. This statement is also supported by Gastil (2004) who also suggested that participants may need several opportunities to practice and understand the process of deliberation for it to be effective. The Freshman Nursing students in the present study did not have prior experience with the deliberative discussion format and may have needed more than three exposures to the teaching method for it to have been effective. Even experience with the discussion method may have been limited among the participants thus further complicating the participant's understanding and familiarity with the deliberative discussion process.

It is perhaps unrealistic to expect students to engage in a fruitful deliberative discussion after one or two encounters of this 'new' teaching strategy. This was the case in the current study. Participants might have needed more time to familiarize themselves with the work of deliberation before they could really begin critically thinking about the issues. Offering students the chance to reflect on their participation in the deliberative discussion at the close of each session might have been a worthwhile activity. With the 'work' of the deliberation behind them, the moderator could have engaged the participants through a critical reflection of the learning activity. If the participants had the opportunity to critically reflect on the deliberative discussion as a whole, they could have perhaps gained insight into the deliberative process and applied what they learned at the next discussion session. Therefore, their experience with the deliberation may have been strengthened with subsequent deliberative discussion sessions. However, it is not know if

this in fact would have had any effect on the quality of critical thinking in the deliberative discussions.

*Quality of Critical Thinking in the Deliberative Discussion Sessions.* Freshman Nursing students who participated in the deliberative discussion group did not increase the quality of their critical thinking, as measured by the HCTSR, from the first session to the last session. However, it was evident that critical thinking did occur during the deliberative discussion sessions but of various depths and not to the extent that critical thinking increased among the participants over a 13 week period.

Deliberative discussions did not have an effect on students' critical thinking in the short term. Although it was believed that participants were certainly prompted to critically think during the deliberative discussion, limited exposure to the teaching strategy may have contributed to the lack of growth in critical thinking.

Critical thinking is a fixed trait of nature that cannot be changed over a short period of time. It has been concluded that critical thinking does not significantly change as a result of a student moving through a nursing curriculum or being exposed to specific, active teaching strategies. Critical thinking requires time to evolve and this process may take months or even years to evolve, if any change would occur at all. Therefore, critical thinking by its very nature is difficult to change

The Freshman Nursing students' critical thinking pretest and posttest scores were comparable to other nursing and college students of similar ages and level of education. Therefore, the challenge lies in moving these students who are young in their careers and have limited experience practicing to critically think toward participating in activities that will foster their critical thinking. Thus, participation in deliberative discussions has the

potential to change thinking habits and enhance critical thought. In actuality, it may be impossible to realize the full impact of participating in deliberative discussions on the students' critical thinking ability. If the discussion sessions help participants' learn to question their personal values and assumptions and scrutinize their taken for granted beliefs, they will take these learned experiences and apply them to other aspects of their lives. Perhaps they would continue to practice the critical thinking skills they learned in the deliberative discussions and engage in critical discussions in college courses with professors and/or colleagues.

The deliberative discussion method provides students' with the opportunity to practice critical thinking. Although it is not known how many exposures to deliberative discussions are needed for students to be comfortable with the format, it was apparent that students in the current study were actively learning and critically thinking in at least two of the deliberative discussion sessions. Consequently, the growth in the students' critical thinking may never be fully known and the exact measurement of change in critical thinking may also be unrealistic. Further investigation into students' participation in many deliberative discussions over an academic year may give educators a better idea of its full impact on critical thinking.

Therefore, the effect of participating in deliberative discussions is two-fold. Students who take part in deliberative discussions would be participating in a learning activity that may foster critical thinking. The deliberative discussion format provides a shared learning opportunity that promotes critical thinking by having students engage in critical dialogue and questioning with each other. In this instance, the level of critical thinking could be observed and evaluated by the researcher or educators who decide to

use deliberative discussions in their classrooms. Feedback could be given to the group as a whole regarding their critical thinking practices and the progression of the level of critical thinking in each discussion could be monitored for changes and/or growth.

The second effect of participating in deliberative discussions is more difficult to account for or even measure. If critical thinking is conceptualized as a process that can be changed in small increments (if at all) over a long period of time, the full impact of participating in deliberative discussion on critical thinking ability cannot be determined. The deliberative discussion method encouraged students to practice and improve many of the components that comprise critical thinking. In essence, the participants learn how to think and question their own thinking which leads to the self-scrutiny and critique of commonly held values and beliefs. Through this process, the participant could take these principles of how to think critically and apply them to other aspects of their lives. The possibilities are endless in terms of one accounting for how participating in deliberative discussions can enhance critical thinking.

The finding of this research does not mean that the deliberative discussion method was not a useful teaching strategy toward the enhancement of critical thinking ability. In actuality, the 'net effect' of deliberative discussion participation is complex (Gastil & Dillard, 1999) and the impact on one's critical thinking process will never be fully known as a result of deliberation. However, even though the findings would indicate that deliberative discussion does not have an effect on one's critical thinking, the current study has its limitations. The potential usefulness of deliberative discussions as a teaching strategy should not be discounted based on this research study alone. Further research is needed to study the effect of participating in deliberative discussions among students in

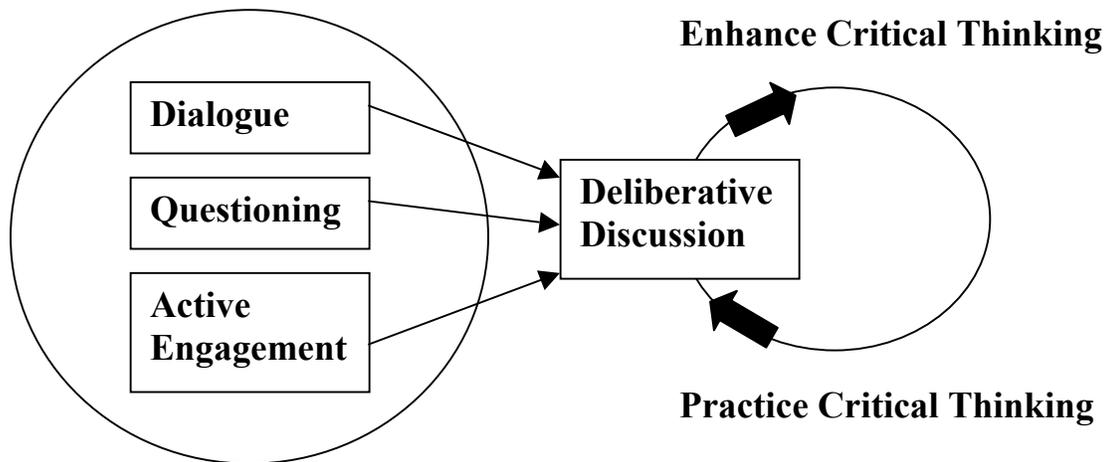
various disciplines and over the long term. Because Freshman students present an interesting challenge to educators in terms of their learning needs while beginning college for the first time, additional research with this population would also be beneficial.

Participating in deliberative discussions could be especially valuable for incoming Freshman students because it can give them the opportunity to build critical thinking skills that would be useful as they progress through their educational program. Although an increase in critical thinking ability could not be found in this study's participants, the deliberative discussion method did provide them with the means to practice their own critical thinking.

#### *Conceptual Framework Revisited*

Critical thinking was conceptualized as a concept that occurred within the inner workings of deliberative discussions (Figure 5.1). Opportunities to practice and enhance critical thinking abilities would evolve within this discussion environment. A fruitful deliberative discussion also needed the elements of dialogue, questioning and active engagement to be interactive.

The conceptual framework proposed to undergird this research study was framed such that the researcher's findings could address the following theoretical aspects of the research question: What effect does the deliberative discussion method have on Freshman Nursing students' critical thinking abilities?



*Figure 5.1.* Conceptual Framework. The practices of dialogue, questioning, and active engagement are mutually interactive and necessary elements of deliberative discussion that allow learners the opportunity to practice and enhance critical thinking.

The portion of the conceptual model that was empirically tested was the Freshman Nursing students' critical thinking ability prior to the deliberative discussion sessions and again after attending three sessions. Setting aside whether changes in critical thinking can be measured over a short period of time, did the deliberative discussion sessions provide the dynamic environment needed to promote critical thinking?

Elements of questioning, dialogue, and active engagement are critical to the establishment of a dynamic deliberative discussion. However, the success of the deliberative discussion falls upon both the moderator of the session and the participants. Further, the quality of the discussion is dependent upon what skills the moderator and participants bring to the session and how the reciprocated relationship among the discussion members evolves.

The concept of questioning within the conceptual model assumes that the moderator would be skilled in asking higher-level questions that would stimulate critical thinking. Otherwise, if questions asked within the deliberative discussion remained lower level, a barrier to critically think would exist. Even a progression from lower level to higher level questions would serve as a ‘warming-up’ period for students to increase their comfort level in engaging in dialogue or even questioning of their own. Key to the contribution of this concept to the deliberative discussion is the skill of the moderator. Although the skill of questioning demonstrated by the moderator was not directly evaluated, it is believed that the asking of questions is what stimulates the flow of discussion among the participants. In essence, if the moderator is not skilled at asking questions that would evoke critical thought, the deliberative discussion may not be as effective of a teaching strategy. Therefore, the art of questioning remains as an essential component toward the stimulation of a fruitful deliberative discussion.

The concept of active engagement should be refined such that it moves students beyond ‘participation’ to include interaction among the participants, which would also involve the questioning of each other. Active engagement is also highly dependent on the students’ ability to participate and desire to interact with fellow group members and the moderator. Further, participation may have been dependent upon how motivated the students were to connect with the discussion topic and invest the energy to contribute to the discussion. Students may have become disengaged if they lacked interest in the discussion issue at hand or felt uncomfortable participating in any manner. The level of individual engagement within the discussions was not evaluated.

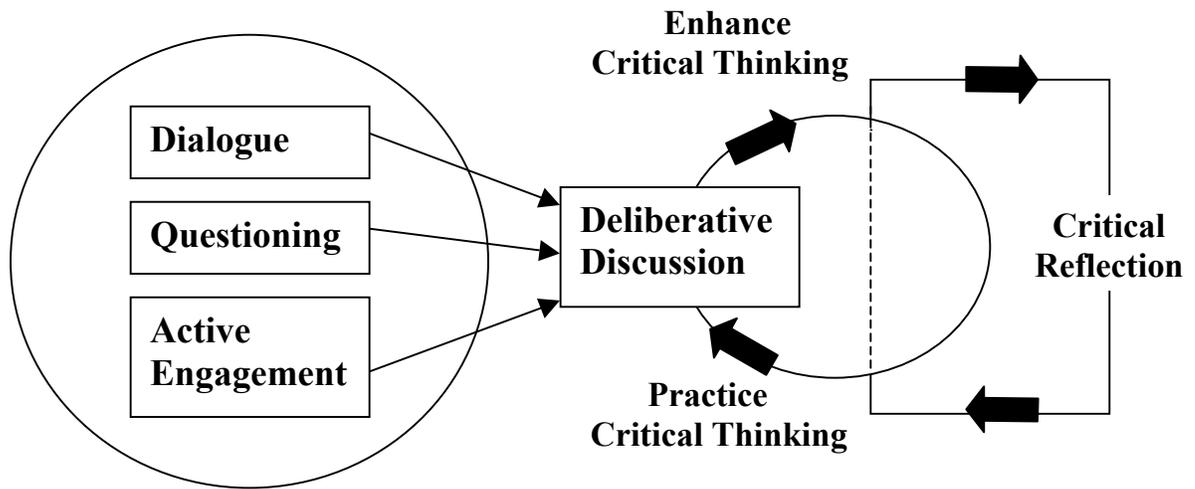
The dialogue that would occur during the deliberative discussion would rely heavily upon the quality of the questions asked (by the moderator and the participants) but also the level of active engagement offered by the participants. It is the dialogue that provides the evidence of critical thinking and also remains an essential component of deliberation.

The one element that is missing from the conceptual model is the Freshman Nursing students' opportunity to reflect on their deliberative discussion experience. According to Oermann (2004), active or student-centered learning involves 'doing something' with the content but then also reflecting on the actual learning process. Further, one of the main purposes of discussion is to enhance participant's capacity to self-critique (Brookfield & Preskill, 1999). The moderator was very clear about the intended purposes of the deliberative discussion and did allow for time at the end to participants to reflect on the issues. However, what was not reflected upon was the deliberative discussion learning process. If participants were given the opportunity to reflect on their own 'performance' in the deliberative process, they would be able to learn what they should or should not do during the next learning encounter. According to Cross (2002), good learners are able to step back and watch themselves in the process of learning and reflect upon what was effective or not. Further, it might have been beneficial if the students were given some feedback by the moderator on their roles in the deliberative discussion. Feedback is often given and appreciated by students who participate in online discussions (Harden, 2003) and helps students incorporate feedback in future critical thinking activities (Cise et al., 2004). Thus, not only should students have the opportunity to engage in critical reflection after each deliberative discussion, the

moderator could facilitate this process along by providing feedback to the participants as a whole.

The concepts of critical thinking and critical reflection overlap and reciprocate one another (Price, 2004). In essence, critical reflection is essential for one to actualize the critical thinking process (Duchscher, 2003) and in turn, engagement in critical thought provides the individual with the sustenance to reflect upon. Reflection moves the critical thinking process by helping participants understand the actions and events that occur in their critical dialogues (Forneris, 2004). Therefore, the process of critical reflection needed to be more visible in the conceptual model in the sense that it was integral to the critical thinking process as it applied to the deliberative discussion teaching method.

According to Twibell et al. (2005), reflection can be promoted through questioning and allows students the opportunity to think and assign meaning to their experiences. Similarly, Smith and Johnston (2005) valued the reciprocated relationship of reflection and critical thinking in clinical practice as a meaningful learning experience. The participants in this study did not have the opportunity to reflect on their own learning after the deliberative discussion. Therefore, a revision of the conceptual model would incorporate the element of critical reflection as overlapping with the process of critical thinking (Figure 5.2).



*Figure 5.2.* Revised Conceptual Framework. The practices of dialogue, questioning, and active engagement are mutually interactive and necessary elements of deliberative discussion that allow learners the opportunity to practice and enhance critical thinking and critical reflection.

The conceptual framework did support the underlining theoretical foundation of the research study. The only modification that was made to the current conceptual framework, based on the research findings, was the addition of a critical reflection component. Thus, the incorporation of a phase of critical reflection would contribute to the practice and enhancement of critical thinking before, during, and after the deliberative discussion sessions.

#### Limitations

Limitations to consider are those that may affect the validity or generalizability of the results. Because the population used in this study was Freshman Nursing students at a small, Midwestern University, the results could only be generalized to this population.

One shortcoming of the present research study was the small sample size due to lack of participation. Although some mortality was expected, based on the original population size of  $N = 71$ , it was surprising that only 23 students (32%) participated in the entire study in total. Overall, the sample size did decrease overtime as anticipated, but not equally in each group.

Although participants were randomly assigned to either the treatment or control group, the unequal group size was also a limitation. The number of participants in the treatment group decreased from the first deliberative discussion to the last discussion session, which was also anticipated at the beginning of the study.

Barriers to participating in the study could have been attributed to lack of time, school/work scheduling conflicts, other family/school/work commitments, lack of information/understanding regarding their participation, the experience of a difficult transition to college school life, stress, or a number of other unknown factors.

The recorder did not attend the second and third discussion sessions which could have caused the remaining moderator to experience fatigue. Further, the recorder's absence could have had an effect on the participants' experience in the last two discussion sessions.

Discussion sessions were held in the same room, on the same day (Sunday), and during the same times of the week (7pm – 8:30pm) but some of the participants in the treatment group indicated after the pretest period that they may have difficulty coming to the scheduled deliberative discussion sessions. Further, regardless of the numerous correspondences sent to the treatment group participants via email, mailbox, or phone,

some participants did not attend the sessions. Therefore, participant participation and regular attendance at the deliberative discussion sessions was a limitation of the study.

### Recommendations

Based on the findings of this research, a number of recommendations could be made when considering the practical implications from the study. The number of Freshman Nursing students who participated in the study decreased substantially overtime. Perhaps Freshman Nursing students needed time to adjust to college life during the first semester of school and this stress contributed to a lack of interest or time to participate in the current study. Thus, the participation rate may be improved by conducting the study during the second semester of the student's Freshman year. Furthermore, exploration of the use of deliberative discussion in other disciplines and with students in all levels of education might be beneficial in the study of this teaching strategy.

Further, because the study was not attached to any one course or a requirement in the nursing program, students may have felt less obligated to participate or dedicate time to the research study of their own free will, without getting some type of credit for their participation. In the current study, it was found that 62% of the Freshman Nursing student population participated at the pretest and the participation decreased over time regardless of the numerous free items and food given to the participants. Overall, 32% of the Freshman Nursing student population participated in the study. If participation in the research study was considered an option within a nursing course and/or given extra credit, it is believed the participation rate would have increased.

Based on the current research findings with respect to the study's conceptual model, it was discovered that the concept of critical reflection should be incorporated at the end of the deliberative discussion process. Allowing opportunities for the participants to critically reflect on their own experiences and contributions within the deliberative discussion could have helped to enhance both critical thinking and improve participant's engagement and dialogue in future discussions. The moderator would be responsible for guiding this reflective process and could provide the discussion group feedback on their participation. The feedback could be incorporated in the student's own critical reflection of the deliberative discussion session. It is hoped that students might feel better prepared and more skilled to participate in future deliberative discussions. Therefore, it is recommended that students be guided through a critical reflection process at the end of the deliberative discussion.

Because it was shown that some level of critical thinking did occur in most of the deliberative discussion sessions, the use of this teaching strategy would be of value in any course within the nursing curriculum. The key is to offer Nursing students as many opportunities as possible to practice critical thinking and the deliberative discussion method should not be discounted. The moderator, who would most likely be the Nurse educator, would need to be familiar with the deliberative discussion format and be skilled at asking higher level type of questions. Thus, it is recommended that deliberative discussions be incorporated into courses to help students foster critical thought overtime.

#### Concluding Remarks

Participation in a few deliberative discussions in a short period of time did not have an effect on the students' critical thinking ability. Nevertheless, the deliberative

discussion method may still be a useful teaching strategy to help Nursing students practice and build their critical thinking skills over time. Although critical thinking did not increase among the Freshman Nursing students in the present study, the deliberation format did lend itself to stimulate critical thought. Multiple encounters to deliberative discussion participation might have a greater impact on critical thinking rather than intermittent exposures to teaching strategies that are believed to enhance critical thought.

Nurse educators can select from a wide variety of active learning strategies to employ in the classroom or clinical settings. The deliberative discussion method offers educators another such strategy to facilitate discussion among their students. However, just as the moderator was the key to a successful deliberative discussion, the Nurse educator would also need to be skilled at asking higher level questions for the discussion to foster critical thinking.

Further, a period of critical reflection incorporated into the students' learning experience with deliberative discussion would also be beneficial. Not only would reflection help students become more familiar with their role in the deliberative process, they would begin to reflect and critically think upon their own learning as well.

Educators are ultimately responsible to engage students in learning activities that promote critical thought. Students' abilities to critically think could be nurtured and fostered throughout their educational experience if they have repeated opportunities to practice critical thinking. Students who practice to critically think may increase the likelihood that their critical thinking abilities might change over time. Therefore, growth in critical thinking is a possibility and the incorporation of teaching strategies such as the deliberative discussion method throughout the curriculum may help to foster this positive development in thinking among students.

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APPENDIX A

FRESHMAN NURSING STUDENT INVITATION LETTER



**Workforce Development  
and Education  
School of Physical Activity  
and Educational Services**

283 Arps Hall  
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Phone 614-292-5037  
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August 23rd, 2004

Dear Freshman Nursing Student,

I wanted to take this opportunity to congratulate you for choosing a career in nursing. In addition to beginning your nursing education this Fall, I wanted to share with you the innovated research I will be conducting at Capital University.

In addition to being an Assistant Professor in the School of Nursing at Capital University, I am also a doctoral student at the Ohio State University completing my dissertation research and this research will be conducted under the direct supervision of the principal investigator, Dr. David Stein and the Ohio State University. I am interested in studying the effects of an innovative teaching strategy on the critical thinking abilities of Freshman Nursing students. If you chose to participate, I will be asking you to complete three assessment tools at the end of August (75 minute time commitment), keep a log of your extracurricular activities over the next three months (10 minutes per week time commitment), and complete one assessment tool at the end of November, 2004 (45 minute time commitment). Of all the students that agree to participate in the study, half of those students will be selected at random to be asked to participate in three deliberative discussion groups while the other half of the students do not attend the sessions. Student's names will be drawn from a hat and randomly assigned to either attend the sessions or not. If you are also asked to participate in the deliberative discussion group, you will be asked to attend three 90 minute discussion sessions over the Fall semester.

By participating in this study, you will have the opportunity to learn about your personal critical thinking ability. If the research findings indicate low critical thinking ability for the Freshman Nursing student population as a whole, the researcher will provide resources to the students as to how they can improve their own critical thinking ability. All students will be referred to the Center of Teaching and Learning for assistance if needed and a bibliography of references on how one can increase critical thinking ability will be provided to all students regardless of their critical thinking scores. If the study illustrates that participation in deliberative discussion enhances critical thinking ability, those who did not

attend the sessions will be offered the opportunity to participate in the deliberative discussion sessions during the Spring semester. These students would be contacted in January 2005 to identify interest in participation the deliberative discussion groups and dates/times to attend.

Students will be compensated for their participation in the study in the form of token incentives such as pens, water bottles, door prizes, etc. at no cost to the students. Light snacks and refreshments will also be provided during each time data is collected from the students. All data collected about you in this study will remain strictly confidential and will not be reported to anyone outside the research study in a manner that personally identifies you.

During your Freshman Orientation week, I will be meeting the Freshman Nursing Class of 2008 to discuss the research I will be conducting in the School of Nursing at Capital University. Although your participation in the study is voluntary, I hope this letter will peak your interest in the area of nursing research as you embark on your journey toward a rewarding career as a nurse. If you have any questions regarding this research study, please feel free to contact the Principal Investigator, Dr. Stein or myself at the contact information located at the end of this letter. I look forward to meeting you in the Fall.

Sincerely,

Heather Janiszewski Goodin, PhD(c), RN

Research Contact Information:

-----  
Principal Investigator  
Dr. David Stein  
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Co-Investigator  
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(614) 236-6380  
email: [hjanisze@capital.edu](mailto:hjanisze@capital.edu)

APPENDIX B

LETTER OF PERMISSION FROM THE SCHOOL OF NURSING DEAN



February 29, 2004

To: OSU Human Subject Review Committee  
Re: Letter of support of research proposal from Heather Janiszewski

Dear Committee,

It is my pleasure to support the research project of Heather Janiszewski titled "The Effects of Using Deliberative Discussion to Enhance the Critical Thinking Abilities of Freshman Nursing Students". This project meets her need for subjects for completion of her dissertation project under the supervision of her dissertation committee at the Ohio State University. She will also have to meet the requirements of Capital University's Research Review Committee in order to implement this project.

This project is directly applicable to testing learning strategies with collection of assessment data related to critical thinking. Critical thinking is an outcome measure in the School of Nursing and applicable to our liberal learning initiative. The findings will be used to inform our curricular work in the pre-licensure BSN program. This work not only meets our need for institutional research, but also provides an excellent opportunity for Ms. Janiszewski to complete a significant research project that will be publishable in highly desirable, refereed professional journals.

Ms. Janiszewski is currently employed as an assistant professor in Nursing at Capital University. This project will be respected as scholarship in her annual review process. The work of this project will not interfere with the completion of her remaining work requirement.

Sincerely,

A handwritten signature in cursive script, appearing to read "Elaine F. Haynes".

Elaine F. Haynes, PhD, RN  
Dean and Professor

Copy: personnel file

---

**School of Nursing**

Columbus, OH 43209-2394 • FAX (614) 236-6157 • [www.capital.edu](http://www.capital.edu)  
Undergraduate Program (614) 236-6703 • Graduate Programs (614) 236-6345 • BSN-Completion: Columbus (614) 236-6345; Dayton (937) 228-5006

APPENDIX C

IRB APPROVAL LETTERS

Heather Janiszewski Goodin, PhD  
Capital University  
School of Nursing  
Battelle Hall

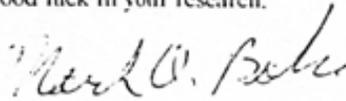
David Stein, PhD  
Ohio State University  
Work Force Development And Education

Dear Investigators:

The requested changes have been received and accepted. Please submit one complete protocol, with all changes, for our records.

This letter serves as notification of final IRB approval for your research proposal: 05/04/04-E; The Use of Deliberative Discussion as a Teaching Strategy to Enhance the Critical Thinking Abilities of Freshman Nursing Students

Good luck in your research.



Mark A. Baker  
Chair, Capital University Institutional Review Board  
236-6272

08/10/2004



APPENDIX D

CALIFORNIA CRITICAL THINKING SKILLS TEST (CCTST)

# California Critical Thinking Skills Test

---

## CCTST - 2000

Use the CCTST - 2000 answer sheet.

Bubble in your ID number and name.

Please wait for the instruction to begin.



Dr. Peter A. Facione, Loyola University Chicago  
© 2000, Insight Assessment/The California Academic Press  
217 La Cruz Ave., Millbrae, CA 94030  
[www.insightassessment.com](http://www.insightassessment.com)

JFAT 55.82.041909  
ISBN 1-891557-42-4

## The California Critical Thinking Skills Test - 2000

**DIRECTIONS:** Read each question carefully. When answering select the *best choice from among those provided*. There are 34 questions. Each question is of equal value, so use your time wisely. You may write in this test booklet if you wish.

1. The teams in the city's youth recreational soccer program are meant to be evenly matched. Yet some teams are a little better than others. Suppose that last Saturday a team called the Sparklers defeated one called the Wildflowers. Suppose that the previous Saturday the Wildflowers had defeated a team called the Mustangs. What is likely to happen next Saturday when the Sparklers play against the Mustangs?

- A= The Sparklers will certainly win.
- B= The Sparklers will probably win, but might lose.
- C= The Sparklers will probably lose, but might win.
- D= The Sparklers will certainly lose.
- E= The soccer game will end in a tie.

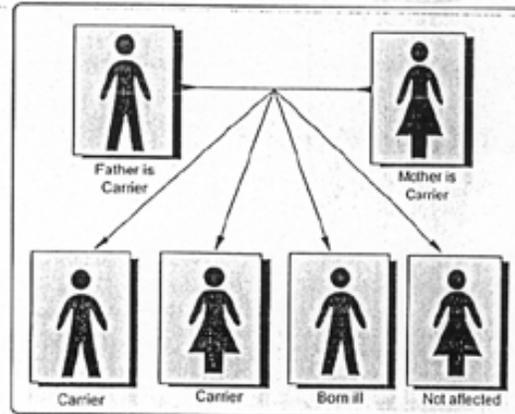
2. Consider the claim: "Even Thomas Jefferson used evasive language sometime," as this claim relates to the following reason: "After all, every politician has to please a constituency. And Thomas Jefferson, even though he was a great statesman, was also a politician. But nobody can please a constituency without, at least on some occasions, using evasive language." Assuming all the statements made as part of the reason are true, the initial claim

- A= could not be false.
- B= is probably true, but may be false.
- C= is probably false, but may be true.
- D= could not be true.

3. Suppose "Only those seeking challenge and adventure should join the Army" were true. Which of the following would express the same idea?

- A= If you seek challenge and adventure, you should join the Army.
- B= If you join the Army, you should seek challenge and adventure.
- C= You shouldn't seek challenge and adventure except by joining the Army.
- D= You shouldn't join the Army unless you seek challenge and adventure.

For questions #4 uses this diagram



4. Tay-Sachs is a genetic disease. The genes for this disease can be passed from a parent who is a carrier to that person's biological child. The diagram above indicates the probable pattern of passing Tay-Sachs from parents to their biological children. If both parents are genetic carriers of Tay-Sachs, their biological children have roughly a 75% chance of being affected. The probabilities break down this way: each biological child of two Tay-Sachs carriers has about a 50% chance of being a carrier and about a 25% chance of actually having the disease. Assume that Harvey and Sharon, who are married, are thinking that they want to have a child. When Harvey and Sharon undergo a Tay-Sachs screening test, they learn for the first time that they are both Tay-Sachs carriers. Given the information presented here, it follows that:

- A= Their biological child will either have Tay-Sachs or be a Tay-Sachs disease carrier.
- B= Although the risks are high, it is possible that their biological child will be unaffected.
- C= Harvey and Sharon will think about the risks and decide not to conceive a child.
- D= Harvey and Sharon will still want to be parents and decide to adopt a child.

5. "Ezerinians tell lies," means the same thing as:

- A= If anyone is Ezerinian, then that person is a liar.
- B= If anyone is a liar, then that person is Ezerinian.
- C= There is at least one person who is an Ezerinian who lies.
- D= People don't lie unless they are Ezerinian.
- E= All of the above mean the same thing.

6. "Not all the candidates are qualified to serve," expresses the same idea as:

- A= None of the candidates are qualified to serve.
- B= Some candidate is not qualified to serve.
- C= Someone qualified to serve is not a candidate.
- D= All candidates are not qualified to serve.

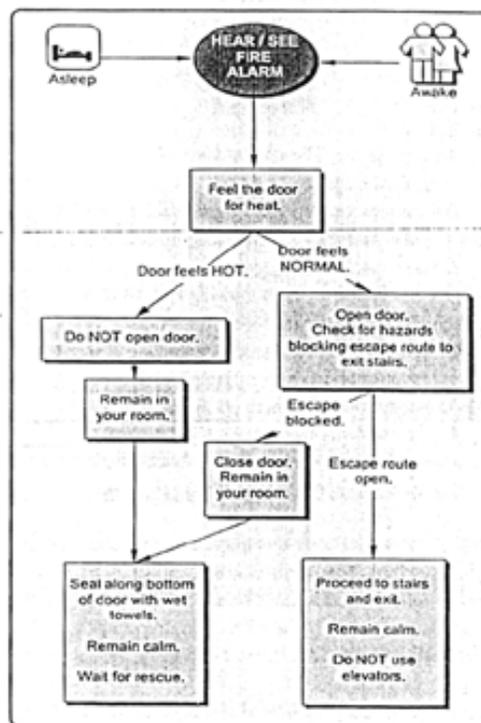
7. Passage: "The microorganisms in this pond are of the kind which generally reproduce only in water with a temperature above the freezing point. Now it's winter time and this pond is solid ice. So, if there are any microorganisms of the kind we are researching in the pond, they aren't reproducing right now." Assuming all the supporting statements are true, the conclusion of this passage

- A= could not be inaccurate.
- B= is probably accurate, but may be inaccurate.
- C= is probably inaccurate, but may be accurate.
- D= could not be accurate.

8. Consider this group of statements: "Nero was emperor of Rome in the first century AD. Every Roman emperor drank wine and did so using exclusively pewter pitchers and goblets. Whoever uses pewter, even once, has lead poisoning. Lead poisoning always manifests itself through insanity." Which of the following must be true if all of the above are true?

- A= Those who suffer from insanity used pewter at least once.
- B= Whatever else, Emperor Nero was certainly insane.
- C= Exclusive use of pewter was a privilege reserved for Roman emperors.
- D= Lead poisoning was common among the citizens of the Roman Empire.

For questions #9 and #10 use this diagram



9. Based on the chart above, if you were in your room on the fourth floor of a ten floor hotel watching television and you heard the fire alarm sound, you probably should

- A= exit by the stairs.
- B= go to sleep.
- C= exit by the elevator.
- D= remain in the room.
- E= feel the door.

10. Suppose you wake up to the sound of the fire alarm and when you check the door it feels normal. Then you check the hallway. In the hall on the floor by each door you see a folded copy of the morning's newspaper. Next to one door you see some glasses, cups and dirty dinner dishes stacked on a room service tray. And, you see a few people with their suitcases calmly getting on the elevator to go down. And suppose the elevator is closer to your room than the stairs. In this case, you probably should

- A= exit by the stairs.
- B= remain in your room.
- C= pack your suitcase.
- D= go down on the elevator.
- E= phone the desk for advice.

11. "Many new and very specialized departments have been created recently within the corporation. This proves that the corporation is very interested in more sophisticated approaches to reaching the marketplace." This passage is best described as missing the unstated

- A= conclusion, "The corporation will soon do a better job of reaching the marketplace."
- B= conclusion, "Management wanted to come up with new approaches to reaching the marketplace."
- C= premise, "The corporation was failing to reach the marketplace before these new departments were developed."
- D= premise, "These new departments are working on sophisticated, new approaches to reaching the marketplace."
- E= conclusion, "Corporations exist primarily, if not exclusively, to serve the interests of their owners."

12. "Research at the Happy-Days Preschool on the campus of State College showed that four-year-old children who attended the Happy-Days Preschool all day for 9 months averaged 58 points on a standardized test of kindergarten readiness. The research showed also that those four-year-olds who attended only in the morning for 9 months averaged 52, and those four-year-olds who attended afternoons only for 9 months averaged 51. A second study of four-year-olds who attended Holy Church Preschool all day for 9 months showed these children averaged 54 on the same kindergarten readiness test. A third study of four-year-olds who attended no preschool and were all from low income households showed an average score of 32 on the same test. The difference between 32 and the other scores was found to be statistically significant." Initially, the most plausible scientific hypothesis regarding the data is that

- A= a child who scores 50 or higher is ready for kindergarten.
- B= more testing is needed before a plausible hypothesis can be formed.
- C= preschool attendance is not related to kindergarten readiness.
- D= there should be funding for four-year-olds to attend preschool.
- E= attending a preschool is correlated with kindergarten readiness.

13. Consider this passage: "(1) Poland was not a monarchy in 1926. (2) Indeed, many European historians regard the First World War as marking the end of viable European monarchies. (3) A generation later, when World War II started, there were no monarchies in Europe or the western hemisphere, except those which were purely ceremonial. (4) However, it would be a mistake to think we have seen the last of ruling monarchs without taking a serious look at the Middle East." The above passage is best described as:

- A= An attempt to show that sentence (1) is true.
- B= An attempt to show that sentence (2) is true.
- C= An attempt to show that sentence (3) is true.
- D= An attempt to show that sentence (4) is true.
- E= None of the above because no attempt at proof is made.

**Questions 14 and 15 are based on the following fictional situation:** A college has exactly seven student clubs -- 1, 2, 3, 4, 5, 6, and 7. The college dean must pick exactly five club members, each from a different club, to serve on an important committee. Any combination of five people will do, except that if someone from 1 is selected, no one from 5 can be selected. Also, if someone from 3 is picked, someone from 5 must be picked. And, if someone from 2 is put on the committee, a member of 6 must also be put on the committee

14. Here are five possible combinations of people for the committee. Which is the only combination that meets all the conditions?

- A= 1, 2, 4, 5, 6
- B= 2, 3, 4, 5, 6
- C= 2, 3, 4, 6, 7
- D= 1, 4, 5, 6, 7
- E= 1, 2, 3, 6, 7

15. Assume the dean decides not to select someone from club 7. In that case, which other club cannot be represented on the committee?

- A= 5
- B= 4
- C= 3
- D= 2
- E= 1

16. "The cost of jet fuel has risen dramatically since the 1989 Exxon oil tanker disaster in Alaska and the 1991 war in the Middle East. In that same time the costs of several petroleum derivatives have also gone up sharply. These two facts establish that jet fuel is a petroleum derivative." The best evaluation of the speaker's reasoning is

- A= good thinking, because jet fuel is a petroleum derivative.
- B= good thinking, but not all the facts are stated accurately.
- C= bad thinking. The cost of food has gone up in the same time, but that does not prove that jet fuel is food.
- D= bad thinking. One can draw no conclusions about jet fuel, given facts about petroleum derivatives.

17. "In the half-light of predawn, little Christopher Joseph sat quietly with his nose pressed against the cool glass of his bedroom window. He wanted very much for it to be morning so he could go outside and play baseball. Concentrating very hard, he wished and wished for the sun to appear. And as he wished, the sky began to brighten. He kept wishing. And, sure enough, the sun moved right up over the horizon and into the morning sky. He was proud of himself. Christopher thought about what had happened and decided he could make any cold and lonely night turn into a bright and happy summer day, if he wanted." The best evaluation of Christopher's reasoning is

- A= poor. That it happened after he wished it doesn't mean it happened because he wished it.
- B= poor. The sun goes around the earth with or without his wishing it.
- C= good. Christopher is only a child.
- D= good. What evidence does he have that if he had not wished it, it would not have happened?

18. Suppose a botanist lecturing about garden plants said, "The rose offers many colors." Which would be the best interpretation of this claim?

- A= There is a rose which is more than one color.
- B= There is a thing that is more than one color and it is a rose.
- C= All roses are more than one color.
- D= Not every rose is the same color.
- E= All of the above are equally acceptable interpretations.

19. "There seem to be two popular arguments in favor of the death penalty. One is that the cold fear of being put to death will deter others from committing the same terrible crimes. The second is that the death penalty appears more economical than the alternative, which is life in prison. But every scientific study conducted so far shows that the economic realities strongly favor life imprisonment. That people in general think the death penalty saves money doesn't change the economic facts! So, the death penalty should be abolished." The speaker's reasoning is best evaluated as

- A= poor. It did not show the relevance public opinion.
- B= poor. It did not address the argument about deterring others from crime.
- C= good. It shows the death penalty probably should be abolished.
- D= good. But it is factually mistaken about abolishing the death penalty.

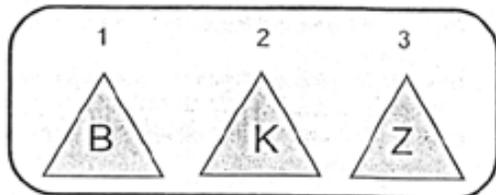
20. Passage: "Terry, don't worry about it. You'll graduate someday. You're a college student. Right? And all college students graduate sooner or later." Assuming all the support statements are true, the conclusion

- A= could not be false.
- B= is probably true, but may be false.
- C= is probably false, but may be true.
- D= could not be true.

**Question #21 relates to the diagram below.**

21. There are three triangle shaped cards on the table. Each has a letter of the alphabet printed on both sides. Which card or cards must you flip over to prove that the claim "If there is a K on one side then there is a B on the other," is always true?

- A= Card # 1 only.
- B= Card # 2 only.
- C= Cards # 1, # 2, and # 3.
- D= Cards # 1 and # 2, but not # 3.
- E= Cards # 2 and # 3, but not # 1.



22. "In a study of high school students at Mumford High, it was found that 75% of those students who drank two or more beers each day for a period of 60 days experienced measurable liver function deterioration. That these results could have occurred by chance was ruled out experimentally with high levels of confidence." If true, the Mumford High information would confirm that

- A= Drinking is statistically correlated with liver deterioration in adolescents.
- B= Drinking causes liver deterioration in adolescents.
- C= Sex is not a factor in the relationship between alcohol and liver deterioration.
- D= The researcher had a personal reason to want to prove young people should not drink.
- E= The drinking age laws are out of date and should be changed.

23. Consider this argument: "Person L is shorter than person X. Person Y is shorter than person L, but person M is shorter than Y. Therefore, person Y is shorter than J." What information must be added to require that the conclusion be true, assuming all the premises are true?

- A= Person L is taller than J.
- B= Person X is taller than J.
- C= Person J is taller than L.
- D= Person J is taller than M.

24. "A standard deck of 52 playing cards contains exactly four kings, four queens, and four jacks. For our purposes we will say that these twelve cards are the only 'face-cards' in the standard deck. The other cards are numbered ace through ten. For the sake of simplicity we can call these other cards the 'numbered-cards.' Now, suppose you are handed a well-shuffled standard deck of 52 cards. So, from what we know now, we can conclude that among the 52 playing cards in a standard deck there are precisely four each of jacks, queens, and kings." The author's way of demonstrating this conclusion is best evaluated as

- A= poor. It proves nothing, as in "The sky is blue because it's blue."
- B= good. The conclusion is an accurate restatement of the given facts.
- C= good. The reasoning fully considers each card in the standard deck.
- D= poor. It fails to consider the odds of drawing a face-card.

25. "Confidentiality is an important part of the relationship between doctor and patient. But protecting innocent people from serious harm is also important. Nobody can say with certainty which value is the more important of the two. This can create some agonizing dilemmas. For example, a doctor may know that a patient is going to harm someone or be harmed by someone, as in the case of suspected child abuse. This puts the doctor in a difficult situation regarding whether to maintain confidentiality or to inform the proper authorities about the suspected danger." The best evaluation of the speaker's reasoning is

- A= good thinking, because confidentiality cannot be compromised.
- B= good thinking, because in the abstract these values conflict.
- C= poor thinking, because in practice doctors do choose one value over another.
- D= poor thinking, because the law clearly says protecting the child is more important.

**Questions #26 and #27 are related.**

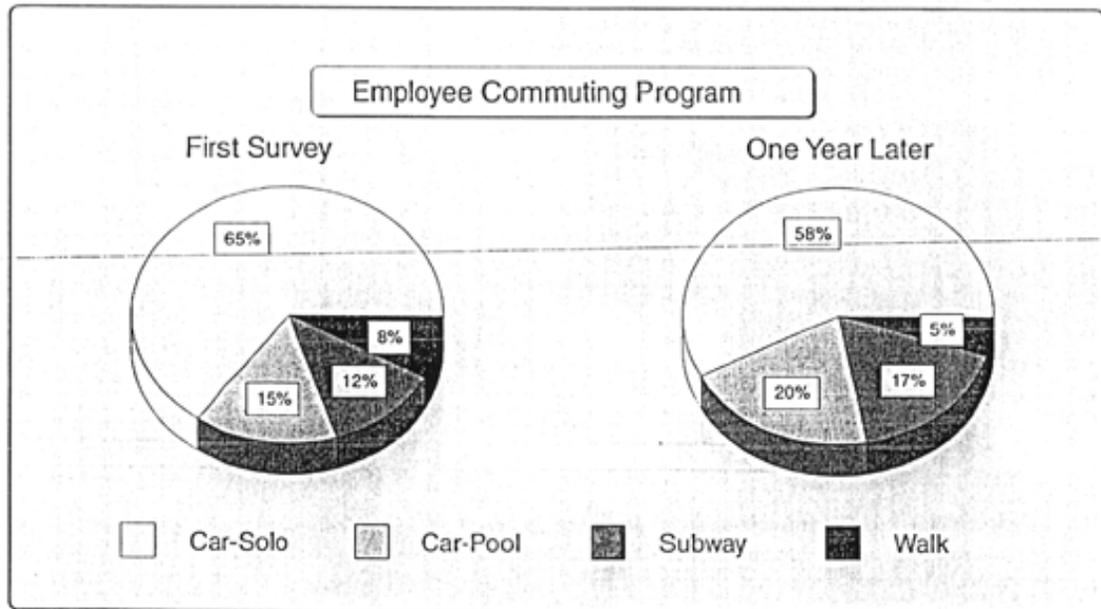
26. The bus between the airport and the rental agency can carry no more than ten passengers. There are 36 people waiting at the rental agency to go to the airport and 14 people waiting at the airport to go to the rental agency. If the bus starts at the airport and no additional people show up to go in either direction, how many trips between the airport and the rental agency must the bus make to deliver all 50 people where they want to go?

- A= 5
- B= 6
- C= 7
- D= 8

27. After the bus departed the second time with passengers bound for the car rental agency, 25 more people arrived at the airport bus stop wanting a ride to the rental agency. How many additional trips in each direction must the bus now make to accommodate the additional 25 people?

- A= 0
- B= 1
- C= 2
- D= 3

Questions #28, #29, and #30 are related to the two pie charts in "Employee Commuting Program"



28. From *First Survey* to *One Year Later*, the proportion of employees who commute solo by car has decreased

- A= to 89% of its original size.
- B= to 93% of its original size.
- C= in proportion to the growth in subway and car-pool use.
- D= in proportion to the reduction in walking.

29. The size of the increase in car-pooling can best be described as

- A= a 33% growth in the use of car-pools.
- B= a 25% growth in the use of car-pools.
- C= a 5% shift from driving alone to car-pool use.
- D= proportionately greater than the growth in subway use.

30. One week after gathering the data for the first survey, the company instituted an incentive program to encourage car-pools and commuting by subway as alternatives to commuting solo by car. Which of the following is the least consistent with the data as presented?

- A= Solo commuting by car has decreased substantially.
- B= The incentives for car-pooling and subway use seem to be working.
- C= The proportion of total employees who use the subway has increased.
- D= Nearly half of those who walked before now use the subway.

31. Assume that whenever it is snowing, streets and sidewalks are wet and slippery. Given that assumption, which of the following must also be true?

- A= If the sidewalks and streets are slippery or wet, then it is snowing.
- B= If it is not snowing, the streets and sidewalks are not slippery.
- C= If the sidewalks are wet or the streets are slippery, it is snowing.
- D= If the sidewalks are slippery but the streets dry, it is not snowing.
- E= It is snowing, the sidewalks are wet and the streets are slippery.

**Questions #32, #33, and #34 are all based on this scenario about being told to fire someone:**

Although instructed by you to do so, your assistant fails to send an important package. You learn that the package never arrived at its destination. At first, when you ask your assistant about the package, he gets angry, insisting that he sent it on time. But eventually he realizes that you do not believe that. Then he says that he misplaced the package, and offers excuses about being very busy doing all the other things you had assigned him to do. Two hours later he comes to you saying that he has found the package under a pile of other things and it has now been sent to its proper destination. Uncertain what to do, you seek your supervisor's advice. Your supervisor says, "Fire that assistant." You disagree saying, "I don't think losing the package warrants being fired. Besides, we cannot fire him without first giving him a written warning as is required by our contract with the labor union." Your supervisor replies, "Fire your assistant anyway. And when you do it, you must tell the assistant it was you who insisted on the firing."

32. Consider this: If there is trouble over a possible contract violation due to firing the assistant, your supervisor wants to be able to say that it was your idea, not hers. In view of the scenario, that statement is

- A= definitely the case.
- B= plausible, but may not be the case.
- C= implausible, but may be the case.
- D= definitely not the case.

33. A friend who does not work with you tells you, "Setting aside the union contract for a moment, there is sufficient reason for firing your assistant. He has lied. He is disorganized and loses important things. He did not even check with you about sending the package late, once he found it." The friend's reasoning is

- A= poor, because the friend does not know the circumstances of work in your office.
- B= poor, because the friend has not given the assistant the chance to defend himself.
- C= good, because the assistant's poor work has hurt your business and your reputation.
- D= good, because the assistant has performed in exactly these substandard ways.

34. Your twelve year old daughter says to you, "So, if you fire your assistant you will get in trouble with the union; but if you do not, you will get in trouble with your boss! No matter what, you will get in trouble eventually." Your daughter's reasoning is

- A= poor, because a twelve year old cannot be expected to understand.
- B= poor, because you cannot be sure what the union will do.
- C= good, because right now there seem to be no other options.
- D= good, because you always have the option of resigning from your job.

---

That was the last question.

If time permits, you may go back and check your answers.

APPENDIX E

CALIFORNIA CRITICAL THINKING DISPOSITION INVENTORY (CCTDI)



# CCTDI

## A Disposition Inventory

Dr. Peter A. Facione  
Santa Clara University

Dr. Noreen C. Facione  
University of California, San Francisco

**Wait for the instruction to begin.**

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(PAF47.9.3.2:020694)

## CCTDI

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### DIRECTIONS:

- Put your name on the answer sheet and on the test booklet.
- Indicate how much you agree or disagree with each numbered statement by filling in the appropriate place on the answer sheet. Read the two examples first.

**EXAMPLE A:** The best things in life are free.

**EXAMPLE B:** I'm always doing more than my share of the work.

The answer sheet shows the responses of someone who  
**STRONGLY DISAGREES** with **EXAMPLE A**  
and **LESS STRONGLY AGREES** with **EXAMPLE B**.

Begin with statement number 1 and continue through number 75. Mark your response on the answer sheet in the place with the corresponding number. If you erase a response, be sure the erasure is clean.

- After you have responded to the 75 statements, fill in the information items printed at the bottom of page 5.
- 

1. Considering all the alternatives is a luxury I can't afford.
2. Studying new things all my life would be wonderful.
3. The best argument for an idea is how you feel about it at the moment.
4. My trouble is that I'm easily distracted.
5. It's never easy to decide between competing points of view.
6. It bothers me when people rely on weak arguments to defend good ideas.

7. The truth always depends on your point of view.
8. It concerns me that I might have biases of which I'm not aware.
9. I always focus the question before I attempt to answer it.

---

10. I'm proud that I can think with great precision.
11. We can never really learn the truth about most things.
12. If there are four reasons in favor and one against, I'd go with the four.
13. Men and women are equally logical.
14. Advice is worth exactly what you pay for it.
15. Most college courses are uninteresting and not worth taking.
16. Tests that require thinking, not just memorization, are better for me.
17. I can talk about my problems for hours and hours without solving anything.
18. Others admire my intellectual curiosity and inquisitiveness.
19. Even if the evidence is against me, I'll hold firm to my beliefs.
20. You are not entitled to your opinion if you are obviously mistaken.
21. I pretend to be logical, but I'm not.
22. It's easy for me to organize my thoughts.
23. Everyone always argues from their own self interest, including me.
24. Open-mindedness has limits when it comes to right and wrong.
25. It's important to me to keep careful records of my personal finances.

26. When faced with a big decision, I first seek all the information I can.
27. My peers call on me to make judgments because I decide things fairly.
28. Being open-minded means you don't know what's true and what's not.

---

29. Banks should make checking accounts a lot easier to understand.
30. It's important to me to understand what other people think about things.
31. I must have grounds for all my beliefs.
32. Reading is something I avoid, if possible.
33. People say I rush into decisions too quickly.
34. Required subjects in college waste time.
35. When I have to deal with something really complex, it's panic time.
36. Foreigners should study our culture instead of us always trying to understand theirs.
37. People think I procrastinate about making decisions.
38. People need reasons if they are going to disagree with another's opinion.
39. Being impartial is impossible when I'm discussing my own opinions.
40. I pride myself on coming up with creative alternatives.
41. Frankly, I am trying to be less judgmental.
42. Frequently I find myself evaluating other people's arguments.
43. I believe what I want to believe.
44. It's just not that important to keep trying to solve difficult problems.

45. I shouldn't be forced to defend my own opinions.
46. Others look to me to establish reasonable standards to apply to decisions.
47. I look forward to learning challenging things.

---

48. It makes a lot of sense to study what foreigners think.
49. Being inquisitive is one of my strong points.
50. I look for facts that support my views, not facts that disagree.

---

51. Complex problems are fun to try to figure out.
52. I take pride in my ability to understand the opinions of others.
53. Analogies are about as useful as a sailboat on a freeway.
54. You could describe me as logical.
55. I really enjoy trying to figure out how things work.
56. Others look to me to keep working on a problem when the going gets tough.
57. Getting a clear idea about the problem at hand is the first priority.
58. My opinion about controversial topics depends a lot on who I talk to last.
59. No matter what the topic, I am eager to know more about it.
60. There is no way to know whether one solution is better than another.
61. The best way to solve problems is to ask someone else for the answers.
62. Many questions are just too frightening to ask.
63. I'm known for approaching complex problems in an orderly way.

64. Being open-minded about different world views is less important than people think.
65. Learn everything you can, you never know when it could come in handy.
66. Life has taught me not to be too logical.
67. Things are as they appear to be.
- 
68. If I have to work on a problem, I can put other things out of my mind.
69. Others look to me to decide when the problem is solved.
70. I know what I think, so why should I pretend to ponder my choices.
71. Powerful people determine the right answer.
72. It's impossible to know what standards to apply to most questions.
73. Others are entitled to their opinions, but I don't need to hear them.
74. I'm good at developing orderly plans to address complex problems.
75. To get people to agree with me I would give any reason that worked.
- 

Please respond to these final items in the places provided on this page.

Name (last/first) \_\_\_\_\_ / \_\_\_\_\_

I.D. \_\_\_\_\_

Date of Birth (month/day/year) \_\_\_\_/\_\_\_\_/\_\_\_\_

Circle one: Female, Male

Grade Level: 7th, 8th, 9th, 10th, 11th, 12th, College1, Col2, Col3, Col4, BA/BS, MA/MS, PhD/JD/MD

When I graduate [graduated] from college, I probably will have [did] major in: \_\_\_\_\_

I am pursuing [expect to pursue] a career as a: \_\_\_\_\_

APPENDIX F

HOLISTIC CRITICAL THINKING SCORING RUBRIC (HCTSR)



# Holistic Critical Thinking Scoring Rubric

Dr. Peter A. Facione  
Santa Clara University

Dr. Noreen C. Facione, R.N., FNP  
University of California, San Francisco

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critical thinking scoring rubric, rating form, or instructions herein for local teaching, assessment, research, or other educational and noncommercial uses,  
provided that no part of the scoring rubric is altered and that "Facione and Facione" are cited as authors.  
(PAF49:R4.2:062694)

## Holistic Critical Thinking Scoring Rubric

Facione and Facione

**4** Consistently does all or almost all of the following:  
Accurately interprets evidence, statements, graphics, questions, etc.  
Identifies the salient arguments (reasons and claims) pro and con.  
Thoughtfully analyzes and evaluates major alternative points of view.  
Draws warranted, judicious, non-fallacious conclusions.  
Justifies key results and procedures, explains assumptions and reasons.  
Fair-mindedly follows where evidence and reasons lead.

**3** Does most or many of the following:  
Accurately interprets evidence, statements, graphics, questions, etc.  
Identifies relevant arguments (reasons and claims) pro and con.  
Offers analyses and evaluations of obvious alternative points of view.  
Draws warranted, non-fallacious conclusions.  
Justifies some results or procedures, explains reasons.  
Fair-mindedly follows where evidence and reasons lead.

**2** Does most or many of the following:  
Misinterprets evidence, statements, graphics, questions, etc.  
Fails to identify strong, relevant counter-arguments.  
Ignores or superficially evaluates obvious alternative points of view.  
Draws unwarranted or fallacious conclusions.  
Justifies few results or procedures, seldom explains reasons.  
Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.

**1** Consistently does all or almost all of the following:  
Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.  
Fails to identify or hastily dismisses strong, relevant counter-arguments.  
Ignores or superficially evaluates obvious alternative points of view.  
Argues using fallacious or irrelevant reasons, and unwarranted claims.  
Does not justify results or procedures, nor explain reasons.  
Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.  
Exhibits close-mindedness or hostility to reason.

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## Instructions for Using the Holistic Critical Thinking Scoring Rubric

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### 1. Understand the construct.

This four level rubric treats critical thinking as a set of cognitive skills supported by certain personal dispositions. To reach a judicious, purposive judgment a good critical thinker engages in analysis, interpretation, evaluation, inference, explanation, and meta-cognitive self-regulation. The disposition to pursue fair-mindedly and open-mindedly the reasons and evidence wherever they lead is crucial to reaching sound, objective decisions and resolutions to complex, ill-structured problems. So are the other critical thinking dispositions, such as systematicity, reasoning self-confidence, cognitive maturity, analyticity, and inquisitiveness. [For details on the articulation of this concept refer to Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction, ERIC Document Number: ED 315 423.]

### 2. Differentiate and Focus

Holistic scoring requires focus. In any essay, presentation, or clinical practice setting many elements must come together for overall success: critical thinking, content knowledge, and technical skill (craftsmanship). Deficits or strengths in any of these can draw the attention of the rater. However, in scoring for any one of the three, one must attempt to focus the evaluation on that element to the exclusion of the other two.

### 3. Practice, Coordinate and Reconcile.

Ideally, in a training session with other raters one will examine sample essays (videotaped presentations, etc.) which are paradigmatic of each of the four levels. Without prior knowledge of their level, raters will be asked to evaluate and assign ratings to these samples. After comparing these preliminary ratings, collaborative analysis with the other raters and the trainer is used to achieve consistency of expectations among those who will be involved in rating the actual cases. Training, practice, and inter-rater reliability are the keys to a high quality assessment.

Usually, two raters will evaluate each essay/assignment/project/performance. If they disagree there are three possible ways that resolution can be achieved: (a) by mutual conversation between the two raters, (b) by using an independent third rater, or (c) by taking the average of the two initial ratings. The averaging strategy is strongly discouraged. Discrepancies between raters of more than one level suggest that detailed conversations about the CT construct and about project expectations are in order. This rubric is a four level scale, half point scoring is inconsistent with its intent and conceptual structure. Further, at this point in its history, the art and science of holistic critical thinking evaluation cannot justify asserting half-level differentiations.

If working alone, or without paradigm samples, one can achieve a greater level of internal consistency by not assigning final ratings until a number of essays/projects/performances/assignments have been viewed and given preliminary ratings. Frequently natural clusters or groupings of similar quality soon come to be discernible. At that point one can be more confident in assigning a firmer critical thinking score using this four level rubric. After assigning preliminary ratings, a review of the entire set assures greater internal consistency and fairness in the final ratings.

APPENDIX G

CONSENT FORM



**Workforce Development  
and Education  
School of Physical Activity  
and Educational Services**

283 Arps Hall  
1945 North High Street  
Columbus, OH 43210-1120

Phone 614-292-5037  
FAX 614-292-4255

**Title of Research Study:** The Use of Deliberative Discussion as a Teaching Strategy to Enhance The Critical Thinking Abilities of Freshman Nursing Students

**The Ohio State University Behavioral and Social Sciences Institutional Review Board Research Protocol number: 2004B0194**

**Capital University's Research Review Committee reviewed this study, protocol number: 05-04-4.**

### **Consent Form**

I understand that I am being asked to participate in a study about the critical thinking abilities of Freshman Nursing students. If I choose to participate, I will be asked to complete three assessment tools today and another assessment tool at the end of the semester. I understand that I will be asked to keep a log of my extracurricular activities over the next three months on a paper provided by the researcher. I will submit this paper to the researcher at the end of the semester. I understand the time commitment involved for this portion of the research study will be the following:

- 75 minutes to complete the three assessment tools today
- 10 minutes per week for three months to keep a log of my extracurricular activities
- 45 minutes to complete another assessment tool at the end of the semester

I understand I may also be asked to participate in three deliberative discussion sessions. Of all the students that agree to participate in the study, half of those students will be selected at random to be asked to participate in three deliberative discussion groups while the other half of students will be asked to keep a log of extracurricular activities only. Each deliberative discussion session will be held on the Capital University campus. I understand the sessions will be audio taped and videotaped and the data will remain strictly confidential. I will be contacted on Monday, August 30<sup>th</sup>, 2004 if I was randomly selected to participate in the deliberative discussion sessions. If I am selected to participate in the deliberative discussion sessions, I understand the time commitment involved for this portion of the research study will be the following:

- 90 minutes one evening in September, 2004
- 90 minutes one evening in October, 2004
- 90 minutes one evening in November, 2004

I understand that my decision to take part in this study is completely voluntary. I can also remove myself from this study at any time during the course of this study. If I choose not to take part in this study or choose to stop my participation at any point, I will not be penalized in any way and my decision will not affect my status within the School of Nursing at Capital University.

I understand my individual scores and data will remain strictly confidential. These records, audio tapes and videotapes will be stored in a locked metal file cabinet at the home of the investigator. I understand that the research investigator, Heather Janiszewski Goodin and her advisor, Dr. David Stein will be involved in the data collection and analysis process. I also understand I may have contact with a moderator and recorder at the deliberative discussion sessions. Information that is gathered about me will not be reported to anyone outside the research study in a manner that personally identifies me.

I grant permission for the investigator to use the data collected in this study in the publication of papers or presentations and in future research conducted by the investigator. I understand my identity (including name or any audiovisual) will not be revealed in any report, paper, presentation, or any public discussion of this study, published or unpublished.

I understand I will receive token incentives for my participation in this study. I understand I will receive token incentives at the beginning of the pretest and posttest sessions. If selected to participate in the deliberative discussions, I will receive token incentives at each session. There will be no cost to me for my participation in completing the assessment tools or for participating in the deliberative discussion sessions. I also understand that the investigator may end my participation in this study without my consent.

I understand that there are no anticipated risks to participating in this study. The benefit to participating in this study is that I will have the opportunity to learn about my own critical thinking ability. If the research findings indicate low critical thinking ability for the Freshman Nursing student population as a whole, the researcher will provide resources to all the students as to how they can improve their own critical thinking ability. If the study illustrates that participation in deliberative discussion enhances critical thinking ability, those who did not attend the sessions will be offered the opportunity to participate in the deliberative discussion sessions during the Spring semester.

I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I can contact the research investigator, Heather Janiszewski Goodin at (614) 236-6380 or her research advisor Dr. David Stein at 292-0988. If I have questions about my rights as a research participant, I can call Mark Baker, Chair of the Institutional Review Board, Capital University at (614) 236-6272 or the Office of Research Risks Protection at the Ohio State University at (614) 688-4792.

I have read this form and I voluntarily agree to participate in this study. I have been given a copy of this consent form.

\_\_\_\_\_  
Print Name of Participant

\_\_\_\_\_  
Five Digit ID Number

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Investigator

\_\_\_\_\_  
Date

Research Contact Information:

-----  
-----

Principal Investigator  
Dr. David Stein  
College of Education  
283 Arps Hall  
1945 North High Street  
Columbus, OH 43210  
(614) 292-0988  
email: [stein.1@osu.edu](mailto:stein.1@osu.edu)

Co-Investigator  
Heather Janiszewski Goodin  
Capital University  
School of Nursing  
2199 E. Main St.  
Columbus, OH 43209  
(614) 236-6380  
email: [hjanisze@capital.edu](mailto:hjanisze@capital.edu)

APPENDIX H  
DEMOGRAPHIC SHEET



APPENDIX I

LOG OF EXTRACURRICULAR ACTIVITIES BOOKLET

Five Digit ID# \_\_\_\_\_

**Instructions:** During this Fall 2004 semester, please keep a log of all extracurricular activities that you are involved with on and off campus. An extracurricular activity is considered time spent outside a Capital University course that involves discussion with others. This may include but is not limited to: campus/community organizations, church groups, honor society meetings, clubs, campus meetings, etc.

Please make a habit to record the date, time, and type of extracurricular activity you participated in on a daily basis. You will be asked to submit this “Log of Extracurricular Activities” at the end of the Fall 2004 semester. The researcher will contact you with the date and time of submission. The maintenance of this log is strictly voluntary.



APPENDIX J

MODERATOR GUIDE: EXAMINING HEALTH CARE:  
WHAT'S THE PUBLIC'S PRESCRIPTION



## Examining Health Care: What's the Public's Prescription?

January 2003

**T**he U.S. spends more than any other country in the world on health care — \$1.3 trillion in 2000, or \$4,637 on every man, woman, and child. Yet serious problems with access, cost and quality persist, depriving many people of the care they need and jeopardizing the health of our nation. From doctors to insurance executives, from patients to officeholders, an overwhelming number of Americans say we desperately need to reform health care in this country. But what is the best prescription for breaking down the barriers preventing so many people from receiving appropriate medical care?

At the heart of people's concerns about health care are important questions about what we value as Americans and what we are and are not willing to do to improve health care. Although they are not mutually exclusive, the following approaches reflect different perspectives and priorities that people bring to this critical issue.

### **APPROACH 1: Connected Parts, Not Fragmented Pieces**

The most effective way to improve health care in America is to take firm hold of it and make it run like a true, well-coordinated system. We need to take the existing, unwieldy collection of health care fragments and fashion them into a connected web of health care services, where information flows readily between the pieces and they work in concert. This is the best way to curb costs and provide health care in a timely way.

### **APPROACH 2: Partners, Not Just Patients**

We need to create new relationships in health care where consumers and professionals work hand in hand, with people becoming partners in their health care. We need to take time to communicate, to help people make informed decisions, and to educate for healthy lifestyles. This is the best way to improve the health of Americans and to lay a firm foundation for personal responsibility and prevention that will result in long-term savings.

### **APPROACH 3: Care for All, Not Just for Some**

We need to set new priorities in health care aimed at providing Americans the care they need when they need it. We need to seal up the cracks in the system so that people don't fall through. We need an unflagging commitment providing the medical treatment that each person needs. This is the best way to improve individual health and prevent illnesses that are more difficult and expensive to treat.

## Approaches and Choices; Choice Work, and NIF

If you're preparing to moderate a National Issues Forum, then you've become familiar with the structure of deliberative dialogue that NIF supports. Discussion guides, starter tapes, and deliberative forums focus on approaches, sometimes also called "choices" in NIF material.

And you know that each approach represents a distinctly different way of approaching an issue, with its own set of benefits, drawbacks, and tradeoffs.

This structure undergirds the basic premise of public deliberation — that citizens in a democracy have a responsibility, and need opportunities, to make choices about how they want to live together, how they want to act together, how they want their government to function.

Sometimes, forum participants find these uses of the word "choice" confusing. Some assume that they are being asked to choose one of the approaches. And, of course, they are not.

Many moderators find it helpful to clarify, at the beginning of the forum, that the work of the forum is to weigh each approach, to "work through" consequences and tradeoffs, and to form a shared sense of what's at stake in the issue. They make it clear that by developing shared directions for public action, forum participants are laying the foundation for making public choices together.

### **If this is your first experience as a moderator:**

#### **You don't have to be an expert on the issue.**

Reading the issue book thoroughly, considering questions that get to the heart of the issue, and thinking through the essence of each choice is the critical part of preparation.

#### **Stay focused on what the forum is about — deliberation.**

Your natural curiosity and your interest in understanding diverse views will be your greatest assets; they're probably what got you here in the first place. So use them to ask questions that probe the underlying motivations of each choice, the tradeoffs it might require, and the willingness of the participants to recognize them.

#### **Keep the discussion moving and focused on the issue.**

No matter the level of experience, most moderators find timekeeping to be a challenge. National Issues Forums examine complicated issues, worthy of deep discussion. Sometimes it's hard to move on to another approach with so much more that could be said. But in order to deliberate — to really make progress on the issue — participants need the opportunity to weigh all the major approaches.

#### **Reserve ample time for reflections on the forum.**

Between allowing time for participants to lay out their personal concerns about the issue at the beginning of the forum and the demanding work of deliberating in depth on each of the choices, it's easy to find yourself with little time left at the end of the forum to reflect on what's been said. But, in many ways, this is the most important work the group will do — if they have time to do it. Explain clearly at the outset that it is important to reserve this time, and then enlist the participants' support in working with you to preserve it.

## Your Role as a Moderator:

- to provide an overview of the process of deliberation — the rationale for the kind of work the participants are getting ready to do.
- to ask questions that probe deeply into what's at stake in the issue and in each choice.
- to encourage participants to direct their responses and questions toward one another.
- to remain neutral throughout the discussion, while encouraging participants to explore all facets of their own and others' opinions.
- to keep track of the time, so participants can move through a discussion of each of the major approaches and into an ending period of reflections.

## The Role of the Recorder:

- to support deliberation by reminding forum participants of their key concerns, the areas of greatest disagreement, and the benefits and tradeoffs their discussion highlighted.
- to serve as a written record of the group's work that might feed into future meetings of the group or additional forums.
- to help inform other members of the community about the outcomes of the deliberation.
- to capture the tensions, tradeoffs, and common ground for action.
- to express main ideas in clearly written brief phrases.

## Forums or Study Circles — or Both?

Many NIF convenors choose to organize single forums around issues of concern in their communities. Most single forums last two- to two-and-one-half hours.

Many others, however, arrange multiple sessions (study circles) to allow participants greater opportunities to examine issues in depth. Some groups set aside time for two meetings; others might devote a separate session for each approach. And some plan ahead of time for a session after the forum to come back together to consider next steps.

Some communities begin their examination of an issue in a large group forum and then break off into smaller groups for subsequent sessions. The reverse also can be helpful — starting in small groups and culminating in a larger community forum.

National Issues Forums is about encouraging public deliberation. The needs of your community will drive the schedule in which deliberation can best occur.

## Guidelines for National Issues Forums and Study Circles

At the beginning of deliberative discussion, most moderators review these guidelines with participants. (A free poster with these guidelines is available to use in your forum. You may request a copy by calling 800-600-4060.)

The moderator will guide the discussion yet remain neutral. The moderator will make sure that —

- Everyone is encouraged to participate.
- No one or two individuals dominate.
- The discussion will focus on the choices.
- All the major choices or positions on the issue are considered.
- An atmosphere for discussion and analysis of the alternatives is maintained.
- We listen to each other.

## The importance of the questionnaires

Questionnaires play an important role in your local forum — and in the national NIF network. Filled out after the forum, the questionnaire serves multiple purposes. It gives participants an opportunity to reconsider their views in light of the experience they have just had. And it gives them an opportunity to add to what they said or heard in the forum.

The questionnaires also serve a vital role outside of the forum. As a means of capturing what happened in the forum, they provide information that can be used to communicate participants' views to others — to officeholders, to the media, to other citizens.

Nationally, a report on the outcomes of the forums on a given issue is produced each year, based on extensive interviews with moderators and the questionnaires that forums generate. Some communities use questionnaires as part of reports on the outcomes of local forums.

**So it is very important that you, as the forum moderator, take a few minutes to gather and return the questionnaires to the National Issues Forums Institute. Please include the moderator response sheet on page 12 with your contact information so that follow-up for the national report is possible.**

Return the completed questionnaires to:

**National Issues Forums Research  
100 Commons Road  
Dayton, Ohio 45459-2777**

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# Examining Health Care: What's the Public's Prescription?

## Questions to Promote Deliberation of the Issue

As you examine this issue together with forum participants, you (and they) will undoubtedly think of questions that are at the heart of what make the issue compelling. Many of these questions will arise during the forum, based on responses of the participants to you and to one another.

Moderators find it very helpful to consider ahead of time the basic, broad questions about each approach that need to be addressed. Here are some possibilities:

### **APPROACH 1: Connected Parts, Not Fragmented Pieces**

- When do you feel the health care system is working best?
- Who should do what to create better accountability practices?
- What kinds of problems have you experienced in health care that you would chalk up to lack of coordination?
- What are you willing to do to help the system run better? What does this approach require from you?
- If you were going to rate your hospital or provider what would you like to grade them on?
- What do HMOs, hospitals, physicians, nurses, and insurance companies do well?
- How does Approach 1 make health care more cost effective and more efficient?

### **APPROACH 2: Partners, Not Just Patients**

- Describe the kind of relationship you want to have with your health care system/providers. With your doctor, nurse? What qualities are you looking for in a health care provider? (i.e., compassionate, trustworthy, efficient?)
- How would we characterize the ways that people get treated differently in the health care system?
- If more people were to act on their rights and responsibilities what would be the impact on care and access?
- Are you familiar with your provider's policy regarding your rights?
- What are fair ways to encourage personal responsibility for healthy lifestyles?
- How much of our self-education regarding our health is our responsibility? How much of this responsibility rests on providers and insurers? What responsibilities does the pharmaceutical industry have to provide us with accurate, fair information and fair prices?
- How does Approach 2 make health care more cost effective and more efficient?

### **APPROACH 3: Care for All, Not Just Some**

- Describe the biggest barriers people face in accessing appropriate health care.
- How many of you don't have health insurance? What services do you use? Does your insurance plan give you the access to the services you need?
- For those of you with insurance, does your plan give you the access to the services you need? How comprehensive is your health care coverage? What does it cover?
- What are the basic elements of health care that each of us should have? What can we do without?
- If we had access to health care for all Americans what would that really look like? How would we want it to work?
- Would you accept less comprehensive services, so that more Americans could have basic services?
- How does Approach 3 make health care more cost effective and more efficient?

## Examining Health Care: What's the Public's Prescription?

## Comparing th

**H**ealth care is a profoundly personal experience that has immense public consequences. The care we get — or don't get — affects our ability to lead long and healthy lives. It has ripple effects throughout our society, influencing children's ability to succeed in school, the productivity of American workers, and the lifestyles of our aging population. From patients to politicians, from doctors to insurance executives, an overwhelming number of Americans say we desperately need to reform health care in this country.

Careful thought and deliberation are needed to understand the nature of the problems in health care and to consider possible courses of action. Although they are not mutually exclusive, the approaches outlined on these pages reflect different perspectives and priorities that people bring to this critical issue.

**Approach One****Connected Parts, Not Fragmented Pieces**

The most effective way to improve health care in America is to take firm hold of it and make it run like a true, well-coordinated system. We need to take the existing, unwieldy collection of health care fragments and fashion them into a connected web of health care services, where information flows readily between the pieces and they work in concert. This is the best way to curb costs and provide health care in a timely way.

**What Can Be Done?**

- Citizens and professionals could serve on health care councils that coordinate the use of facilities and medical services within a region.
- Health care providers could develop systems to share patient information and coordinate care.
- Patients could make sure their doctors are aware of treatments from other doctors and could carry a "health passport" card containing their medical history.
- Insurers could set guidelines to reduce unnecessary medical tests, and medical schools could educate physicians to use costly procedures efficiently.
- Legislators could enact laws to increase the monitoring of health care billing practices and stiffen penalties for fraud.
- Congress could establish a nationwide mandatory reporting system to monitor and learn from medical errors.
- Hospitals could limit the use of emergency rooms to emergency care only.
- Legislators could set caps on awards for medical lawsuits.

**A Likely Tradeoff?**

- This approach uses scarce health care resources to develop systems for coordinating medical care rather than providing direct care to patients.

**Concerns about This Approach**

- Increased legislation adds extra layers to a health care system already choked by bureaucracy.
- Making personal medical records more available makes personal privacy more vulnerable.
- Limiting malpractice awards constrains citizens' rights for appropriate compensation.
- Focusing on medical errors casts doubt on the vast majority of medical professionals who are highly skilled and competent.

# Three Approaches

## Approach Two

### Partners, Not Just Patients

We need to create new relationships in health care where consumers and professionals work hand in hand, with patients becoming partners in their health care. We need to take time to communicate, to help people make informed decisions, and to educate about healthy lifestyles. This is the best way to improve the health of Americans and to lay a firm foundation for personal responsibility and prevention that will result in long-term savings.

### What Can Be Done?

- Insurers and health care administrators could support more face-to-face time between doctors and patients.
- Medical school training could focus on doctor-patient collaboration and "patient-centered care."
- Media and schools could provide more information about health risks, such as smoking and obesity.
- Citizens could serve on medical licensing, review, and health assistance boards.
- Employers could involve employees in decisions about health plans, benefits, and costs.
- Individuals could take more responsibility for practicing healthy habits and preventive health care.
- Insurers could charge higher premiums to customers who engage in risky health habits.
- Legislators could pass laws to protect patients' rights to appeal decisions by insurers.
- Community groups could provide health education and opportunities to discuss public health care policies.

### A Likely Tradeoff?

- This approach depends on the time-consuming work of changing relationships and personal habits rather than addressing existing gaps in health coverage.

### Concerns about This Approach

- Many people will not be willing or able to be so involved in learning about their illnesses and treatments.
- Demands for physicians' and nurses' time will strain a system that is already stretched too thin.
- Doctors should focus on practicing effective clinical treatments, not developing personal relationships.
- Shared decision making confuses who is responsible for medical decisions and treatment.

## Approach Three

### Care for All, Not Just for Some

We need to set new priorities in health care aimed at providing Americans the care they need when they need it. We need to seal up the cracks in the system so that people don't fall through. We need an unflagging commitment providing the medical treatment that each person needs. This is the best way to improve individual health and prevent illnesses that are more difficult and expensive to treat.

### What Can Be Done?

- Clinics could offer more flexible hours and use mobile units to provide health care services in underserved areas.
- Communities could strengthen incentives for doctors to work long-term in underserved rural and urban areas.
- Medicaid and CHIP could be expanded to allow citizens to purchase coverage if they earn too much to qualify for free coverage.
- Health agencies could oversee services to ensure unbiased treatment of females, minorities, and the uninsured.
- Governments could provide tax credits to employers who offer comprehensive health insurance, including mental health, dental, and optical care.
- Community volunteers could provide transportation and deliver prescriptions, and health providers could donate health services to those in need.
- Medicare could be expanded to provide low-cost prescription drugs to senior citizens.
- Legislators could create a system that uses tax dollars to provide health coverage for all Americans.

### A Likely Tradeoff?

- This approach will divert funding from other public services or will require Americans to pay more in taxes or insurance premiums.

### Concerns about This Approach

- Providing care to everyone will overwhelm the health care system, causing shortages, rationing, and long waits.
- Providing free services limits self-sufficiency and creates dependency.
- Increased governmental involvement will detract from health care services better provided by the private sector.
- Expanding publicly funded health care forces taxpayers to pay even more for the health care of others.

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# **Suggested Format for an NIF Forum or Study Circle**

## **Welcome**

Let participants know who is sponsoring the forum/study circle. Stress the cosponsorship if several organizations are involved.

## **Ground Rules**

MAKE CLEAR THAT THE FORUM IS NOT A DEBATE. Stress that there is work to do, and that the work is to move toward making a choice on a public policy issue. The work will be done through deliberation. Review the paragraph "How Do We Do It?" (see page 11). The responsibility for doing the work of deliberation belongs to the group. Deliberation is necessary because there are competing approaches to solving the problem.

## **Starter Video**

Explain that the video reviews the problems underlying the issue, then briefly examines three or four public policy alternatives. In so doing, it sets the stage for deliberation. (Starter videos for each issue book are available from Kendall/Hunt Publishing Company at 1-800-228-0810.)

## **Personal Stake**

Connect the issues to people's lives and concerns — in the first few minutes — by getting participants to talk about their personal experiences with the issue, and to tell their stories. This makes the issue genuine, human rather than abstract. Some questions you might ask include: "Has anyone had a personal experience that illustrates the problems associated with this issue?" "Within your family, or circle of friends, is this an important issue?" "What aspects of the issue are most important to you?" "How does the issue affect people?"

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## **The Forum/Study Circle Deliberation**

**Consistent with what deliberation is, moderators ask basic types of questions in a forum:**

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### **What Is Valuable to Us?**

This question gets at why making public choices is so difficult: the approaches turn on things that people care about very deeply, such as being secure or being treated fairly. This question can take many forms:

- How has this issue affected you personally? (Usually asked at the beginning.)
  - What things are most valuable to people who support this option?
  - What is appealing about this approach?
  - What makes this choice a good idea — or a bad one?
- 

### **What Are the Costs or Consequences Associated with the Various Choices?**

This question can take as long as it prompts people to think about the likely effects of various approaches on what is valuable to them. Examples include:

- What would result from doing what this approach proposes?
  - What could be the consequences of doing what you are suggesting?
  - Can you give an example of what you think would happen?
  - Does anyone have a different estimate of costs or consequences?
- 

### **What Are the Tensions or Conflicts in This Issue That We Have to “Work Through”?**

As a forum progresses, moderators will ask questions that draw out conflicts or tensions that people have to “work through.” They might ask:

- What do you see as the tension between the approaches?
- Where are the conflicts that grow out of what we’ve said about this issue?
- Why is this issue so difficult to decide?
- What are the “gray areas”?
- What remains unsolved for this group?

## Ending A Forum/Study Circle

Before ending a forum take a few minutes to reflect both individually and as a group on what has been accomplished. Questions like the following have been useful:

### I. Individual Reflections

- How has your thinking about the issue changed?
- How has your thinking about other people's views changed?
- How has your perspective changed as a result of what you heard in this forum?

### II. Group Reflections

- What didn't we work through?
- Can we identify any shared sense of purpose or direction?
- What tradeoffs are we, or are we not, willing to make to move in a shared direction?

### III. Next-Step Reflections

- What do we still need to talk about?
- How can we use what we learned about ourselves in this forum?
- Do we want to meet again?

## Questionnaire (Post-Forum)

The Questionnaire is a way to face the conflict within ourselves. Often we discover aspects of each choice we hold most valuable. Yet, the things we care deeply about are often in conflict. Please return the questionnaires and the Moderator Response sheet on page 12 after the forum.

## Suggested Time Line

	<b>Stages of a Forum/Study Circle</b>
15% for Opening	<b>Welcome</b> — The convenor or moderator introduces NIF program. <b>Ground Rules</b> — Participants review desired outcomes of forum. <b>Starter Video</b> — The starter video sets the tone for the discussion. <b>Personal Stake</b> — Connect the issue to people's lives and concerns. <b>The Deliberation</b> — Participants examine all the choices.
65% for Deliberation	
20% for Ending the Forum/Study Circle	<b>Ending the Forum</b> — Reflect on what has been accomplished. <b>Questionnaire</b> — Participants complete Questionnaire.

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## NIF Forums and Study Circles

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### Why Are We Here?

### What Are We Going to Do?

We are here to move toward a public decision on a difficult issue through CHOICE WORK.

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### How Do We Do It?

Through a deliberative dialogue in which we:

- Understand the PROS and CONS of each approach, its BENEFITS, DRAWBACKS, and TRADEOFFS.
  - Know the STRATEGIC FACTS and how they affect the way the group thinks about each option.
  - Get beyond the initial positions people hold to their deeper motivations — the things people consider to be most valuable in everyday life.
  - Weigh carefully the views of others; appreciate the impact various options would have on what others consider valuable.
  - WORK THROUGH the conflicting emotions that arise when various options pull and tug on what people consider valuable.
- 

### How Can We Know If We Are Making Progress?

By constantly testing your group:

- Can your group make the best case for the approach least favored?
  - Can it identify the negative effects of the approach most favored?
- 

### FOR MORE INFORMATION

To order the *Health Care* issue book and starter tape call 800-600-4060, fax 937-435-7367 or mail to National Issues Forums publications, P.O. Box 41626, Dayton, OH 45441.

Moderator guides and forum posters are also available.

Other tapes may be ordered by calling Kendall/Hunt at 800-228-0810.

For other information and comments, visit the NIF Web site at [nifi.org](http://nifi.org) or call NIF Research at 1-800-433-7834.

To post the dates and locations of your forums, E-mail: [forums@nifi.org](mailto:forums@nifi.org).

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## Examining Health Care: What's the Public's Prescription?

### **Moderator Response**

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After the forum, please complete this brief response sheet and return it with the questionnaires from the forum.

Moderator's Name \_\_\_\_\_

Phone \_\_\_\_\_ Date and location of forum \_\_\_\_\_

Briefly describe the audience of your forum including city and state, diversity, age of participants, number of participants.

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What elements of this issue seemed most difficult to the participants?

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What common concerns were most apparent?

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Were there tradeoffs most participants would accept? Describe.

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Were there tradeoffs most participants would not accept? Describe.

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Did the group identify shared directions for action?

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Return with questionnaires to:  
**National Issues Forums Research**  
100 Commons Road, Dayton, Ohio 45459-2777  
[www.nifi.org](http://www.nifi.org)

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## Examining Health Care: What's the Public's Prescription?

**Please share a story that illustrates some of the problems associated with health care in your community.**

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**Think of examples of how health care issues and concerns affect everyday life in your community. Please describe.**

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**Describe how the citizens in your own community have responded to the health care concerns locally. How about nationally? Please share what appears to be working or not working.**

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## APPENDIX K

MODERATOR GUIDE: ALCOHOL: CONTROLLING THE TOXIC SPILL



## **Alcohol: Controlling the Toxic Spill**

How does a free society cope with something like alcohol? It is at the same time a civilized food and an addictive drug. About 100 million adults use it legally, setting role models for illegal use by 11 million minors. Yet, nearly 14 million meet criteria for chronic abuse or addiction. As more researchers, social scientists, and physicians examine the problems, new discoveries are informing public discussions, infusing them with fresh optimism — and greater urgency.

As with other NIF issue books, this booklet also provides an overview of the issue and, to promote public deliberation, outlines several perspectives. Each perspective speaks for one set of American views and priorities and, drawing ideas from across the political spectrum, advocates a unique and consistent approach to the issue.

**NATIONAL ISSUES FORUMS RESEARCH  
100 COMMONS ROAD  
DAYTON, OHIO 45459-2777  
1-800-433-7834**



# MODERATOR GUIDE

1999-2000

*A Different Kind of Talk, Another Way to Act*

Making choices about how to deal with community issues is difficult because different people favor different approaches, and the options for action may contradict or conflict with one another. Certainly any strategy for action will have costs that have to be taken into consideration and consequences that have to be anticipated, as best we can. At the root of the questions of costs and consequences, and behind each approach, lies a range of concerns that, while common to many people, nonetheless pulls them in different directions both individually and collectively. People have to "work through" these conflicts and deal with the trade-offs until they come not necessarily to full and complete agreement, but to the point that they have a shared sense of direction for moving ahead, and some idea of what people are and aren't willing to do to solve a problem. Often we live all our lives somewhere between complete agreement and complete disagreement. Public action becomes possible when citizens discover where their interests are interconnected.

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## ALCOHOL

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### CONTROLLING THE TOXIC SPILL

*These choices are discussed in detail in the NIF Issue Book by this title, ISBN 0-7872-5764-8 and (abridged edition) ISBN 0-7872-5829-6 available from Kendall/Hunt Publishing Company at 1-800-228-0810.*

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#### **Choice 1: Demand Citizen Responsibility**

Most Americans enjoy alcohol and use it responsibly in compliance with laws. Today's problem is that our halfhearted enforcement of alcohol control laws not only makes a mockery of law and moral order, but actually encourages underage drinking as well as irresponsible and illegal alcohol use. To deter alcohol abuse, the nation must draw the line on irresponsible use of alcohol and provide swift, certain, and severe punishment to those who cross that line.

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#### **Choice 2: Treat the Public Health Epidemic**

The abuse of alcohol is not a law enforcement problem, but a public health epidemic that the practice of medicine can cure. Alcoholism itself is a disease, often inherited, that is shrouded in stigma, confusion, denial, and ignorance. Many more programs for prevention, early detection, counseling, and treatment are needed to address the range of alcohol problems leading up to and including addiction.

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#### **Choice 3: Educate for Societal Change**

Progress in enforcing laws or in curbing an epidemic will remain elusive until Americans personally confront the problems of alcohol abuse — much the way they did with smoking and cancer. We should use the antismoking campaign as a model. We should undertake societywide educational efforts to dispel falsehoods and ignorance about alcohol and, at the same time, generate popular social norms and public policies for responsible behavior.

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## THE MODERATOR'S ROLE

Deliberation with fellow citizens is necessary when we have to make decisions on matters that are very important to us, when there are competing approaches to solving a problem. Deliberation occurred in America's earliest town meetings. Privately, we deliberate when we have a difficult decision to make about an important matter in our lives and have to weigh several options carefully. In our private lives we have learned that we can seldom have everything and we must make choices. Likewise, in public life citizens must choose among options, all of which may be attractive. That, in a nutshell, is what deliberation is — weighing carefully the various approaches, the pros and cons of each option, and the views of others about what should be done. A deliberative dialogue is a chance to explore, to test ideas, and to look at the ambiguities or gray areas rather than seeing only the stark black and white of polar opposites.

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### *Deliberation requires the moderator to:*

- Move the conversation beyond the sharing of stories to looking at costs and consequences of the options.
- Make sure the best case/positive side of all options are considered and understood. To diminish an option is to stop deliberation. There are major differences about which options would be best or which direction to take. These differences must be clear and not covered over. To fail to consider an option or diminish an option keeps important differences from surfacing.
- Stay with deliberation until participants see that the issue is framed on what is valuable to people and until they have identified the conflicts among the approaches.
- Recognize that forums seldom end in total agreement or total disagreement. Forums frequently end in a discovery of a shared sense of purpose or recognition of how interests are inter-connected.

### **To Hold Counsel With One Another**

*The whole purpose  
of democracy is that  
we may  
hold counsel with  
one another,  
as not to depend  
on the understanding  
of one person  
but to depend  
on the counsel  
of all.*

*Woodrow Wilson 1912*

Forums do change people's opinions of others' opinions. Those changes in perception create new possibilities for acting together, generating the political will to move ahead.

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## **SUGGESTED FORMAT FOR A NIF FORUM OR STUDY CIRCLE**

### **WELCOME**

Let participants know who is sponsoring the forum/study circle. Stress the cosponsorship if several organizations are involved.

### **QUESTIONNAIRE (PRE-FORUM)**

Remind people that the Pre-Forum Questionnaire is a way to get everyone focused on the issue and a way for each participant to take inventory of initial feelings on the issue. Tell them there'll be another questionnaire for them after these deliberations end.

*(Pre- and Post-Forum Questionnaires are found at the end of the issue book. You may want to provide copies to participants separately if they do not want to tear these pages out of their issue books. If you distribute separate copies, it is wise to make the Pre- and Post-Forum Questionnaires on different colored paper so that they easily may be kept separate.)*

### **GROUND RULES**

**MAKE CLEAR THAT THE FORUM IS NOT A DEBATE.** Stress that there is work to do, and that the work is to move toward making a choice on a public policy issue. The work will be done through deliberation. Review the chart "How do we do it?" (see page 7). The responsibility for doing the work of deliberation belongs to the group. Deliberation is necessary because there are competing approaches to solving the problem.

### **STARTER VIDEO**

Explain that the video reviews the problems underlying the issue, then briefly examines three or four public policy alternatives. In so doing, it sets the stage for deliberation. *(Starter videos for each issue book are available from Kendall/Hunt Publishing Company at 1-800-228-0810.)*

### **PERSONAL STAKE**

Connect the issues to people's lives and concerns — in the first few minutes — by getting participants to talk about their personal experiences with the issue, and to tell their stories. This makes the issue genuine, human rather than abstract. Some questions you might ask include: "Has anyone had a personal experience that illustrates the problems associated with this issue?" "Within your family, or circle of friends, is this an important issue?" "What aspects of the issue are most important to you?" "How does the issue affect people?"

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## THE FORUM/STUDY CIRCLE DELIBERATION

*Consistent with what deliberation is, moderators ask four basic questions in a forum:*

### 1

***What is valuable to us?*** This question gets at why making public choices is so difficult: the options turn on things that people care about very deeply, such as being secure or being treated fairly. This question can take many forms:

- How has this issue affected you personally? (Usually asked at the beginning.)
- What things are most valuable to people who support this option?
- What is appealing about this option?
- What makes this option a good idea — or a bad one?

### 2

***What are the costs or consequences associated with the various options?***

This question can take as long as it prompts people to think about the likely effects of various options on what is valuable to them. Examples include:

- What would result from doing what this option proposes?
- What could be the consequences of doing what you are suggesting?
- Can you give an example of what you think would happen?
- Does anyone have a different estimate of costs or consequences?

### 3

***What are the tensions or conflicts in this issue that we have to “work through”?***

As a forum progresses, moderators will ask questions that draw out conflicts or tensions that people have to “work through.” They might ask:

- What do you see as the tension between the options?
- Where are the conflicts that grow out of what we’ve said about this issue?
- Why is this issue so difficult to decide?
- What are the “gray areas”?
- What remains unsolved for this group?

### 4

***Can we detect any shared sense of purpose or how our interdependence is grounds for action?***

In the very first few minutes of a forum, the moderator should remind people that the objective is to work toward a decision. Then, as the tensions or conflicts become evident, as people see how what they consider valuable pulls them in different directions, the moderator will test to see where the group is going with questions like:

- What direction seems best, or where do we want to go with this policy?
- The moderator can follow-up to find out what people are or are not willing to do or sacrifice to solve a problem with such questions as:
  - What trade-offs are we willing to accept?
  - What trade-offs are we unwilling to accept?
  - What are we willing to do as individuals or a community to solve this problem?

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## ENDING A FORUM/STUDY CIRCLE

Before ending a forum take a few minutes to reflect both individually and as a group on what has been accomplished. Questions like the following have been useful:

### I. Individual Reflections

- How has your thinking about the issue changed?
- How has your thinking about other people's views changed?
- How has your perspective changed as a result of what you heard in this forum?

### II. Group Reflections

- What didn't we work through?
- Can we identify any shared sense of purpose or direction?
- What trade-offs are we, or are we not, willing to make to move in a shared direction?

### III. Next-Step Reflections

- What do we still need to talk about?
- How can we use what we learned about ourselves in this forum?
- Do we want to meet again?

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## QUESTIONNAIRE (POST-FORUM)

The Post-Forum Questionnaire is a way to face the conflict within ourselves. Often we discover aspects of each choice we hold most valuable. Yet, the things we care deeply about are often in conflict. The questionnaire, along with other information, is important in discovering a Public Voice. Send both the Pre- and Post-Forum Questionnaires to:

National Issues Forums Research  
100 Commons Road  
Dayton, Ohio 45459-2777

### Suggested Time Line

### Stages of a Forum/Study Circle

15% for Opening	<b>Welcome</b> — The convenor or moderator introduces NIF program. <b>Questionnaire</b> — Participants complete Pre-Forum Questionnaire, discussion begins. <b>Ground Rules</b> — Participants review desired outcomes of forum. <b>Starter Video</b> — The starter video sets the tone for the discussion. <b>Personal Stake</b> — Connect the issue to people's lives and concerns. <b>The Deliberation</b> — Participants examine all the choices.
65% for Deliberation	
20% for Discovering the Shared Sense of Purpose and Ending the Forum/Study Circle	<b>Ending the Forum</b> — Reflect on what has been accomplished. <b>Questionnaire</b> — Participants complete Post-Forum Questionnaire.

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## LEADING A FORUM OR STUDY CIRCLE ON THE NIF ISSUE BOOK *Alcohol: Controlling the Toxic Spill*

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### Relevance of the Issue

How does a free society cope with something like alcohol? It is at the same time a civilized food and an addictive drug. About 100 million adults use it legally, setting role models for illegal use by 11 million minors. Yet, nearly 14 million meet criteria for chronic abuse or addiction. As more researchers, social scientists, and physicians examine the problems, new discoveries are informing public discussions, infusing them with fresh optimism — and greater urgency.

Today, drinking is an accepted fact of American life, serving social functions and satisfying personal appetites. Most Americans enjoy alcohol without any problem. And science pours out studies lauding its health benefits. Moderate consumption of alcohol (one drink per day for women and two for men based on weight differences and water content) can reduce cardiovascular disease among middle-aged and older men and postmenopausal women. And since the 1980s Americans have been drinking less, resulting in correspondingly lower rates for associated problems, such as traffic fatalities.

But bad news abounds. Alcohol abuse is involved in 30 percent of suicides, 48 percent of robberies, 50 percent of homicides, 52 percent of rapes and sexual assaults, and 68 percent of manslaughter cases. Alcohol can harm virtually every tissue and organ in the body. A government panel recommended in 1998 that it be listed officially as a human carcinogen. One in four urban hospital patients is being treated for an ailment linked to alcohol. Alcohol use during pregnancy can cause birth defects, including mental retardation. Among all causes of death, alcohol-related deaths rank third or fourth, from year to year. At least, 1 percent of all drivers at any time are legally drunk. On weekend nights that rate rises to 3 percent. The estimated cost of all alcohol-related problems is \$148 billion annually, representing \$1.09 in societal costs for each drink Americans consume. Most young people begin drinking before age 13 and do the heaviest drinking of their lives between the ages of 18 and 21. In 1997, 32 million Americans engaged in binge drinking, and 11 million were heavy drinkers.

Americans have some difficult questions to ponder. Why aren't laws controlling alcohol more effective? Why don't treatment programs have more impact on the problem? Why aren't education programs having more impact?

And how do we deal with the trade-offs? Are we willing to give police more power and reduce individual rights by calling for stricter laws and enforcement? Are we willing to spend the time and money involved in focusing on research, prevention, and treatment? Would an entirely negative view of alcohol result in more restrictions than many Americans want? Would it simply make drinking more appealing to those who defy conventions?

### Using the Issue Book

For a complete discussion of the background for this issue, study the NIF issue book, pp. 2-5 or (abridged edition) pp. 2-4.

Forums are much more effective if the moderator has studied the issue book. The purpose of this study is so the moderator understands all facets of the issue and can draw from forum participants a full deliberation of all pros, things held valuable, cons, costs, and trade-offs. The purpose of this study is NOT so the moderator can reveal her or his knowledge of the book. Remember the objective of the moderator is to assist development of full deliberation among participants in the forum. Forums and study circles are also much more productive if participants have also read the issue book. Convenors of forums and study circles must work imaginatively to promote reading of an issue book before engaging in deliberation.

Remember as moderator that you are assisting your forum participants in answering the question of how your community should address the issue of controlling the negative effects of alcohol.

Look at your issue book. You will find a complete discussion of Choice One on pp. 6-10 or (abridged edition) pp. 5-9. Choice Two is discussed on pp. 11-15 or (abridged edition) pp. 10-14. Choice Three is discussed on pp. 16-20 or (abridged edition) pp. 15-19. A summary of the choices, what can be done on each, supporting and opposing views, likely costs, and trade-offs that must be considered is found on pp. 21-23 or (abridged edition) pp. 20-22.

Develop the pros, things held valuable, cons, and costs of each choice. Give each choice equal weight in the discussion. Participants will normally take longer to address the first choice because aspects of the other choices will be brought up. Equal weight does not necessarily mean equal time. Work especially hard on the trade-offs among the choices. How far people are willing to go or not to go in implementing a choice is an important element in discovering common ground for action. This sense of what people are struggling with in addressing the issue is an important goal of the reflective questions asked at the end of a forum or study circle.

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### Planning for Your Next Forum or Study Circle

Your participants may be interested in deliberating other NIF issue books. Several involve tensions over things held valuable similar to those encountered in a choice about alcohol. For example, issue books are available on choices of direction involving similar things held valuable in dealing with *Gambling: Is It a Problem? What Should We Do?* and *The Drug Crisis*.

## NIF FORUMS AND STUDY CIRCLES

### **1** Why are we here? What are we going to do?

We are here to move toward a public decision or CHOICE on a difficult issue through CHOICE WORK.

### **2** How do we do it?

Through a deliberative dialogue in which we:

- Understand the PROS and CONS of every option, its COSTS AND CONSEQUENCES.
- Know the STRATEGIC FACTS and how they affect the way the group thinks about each option.
- Get beyond the initial positions people hold to their deeper motivations — the things people consider to be most valuable in everyday life.
- Weigh carefully the views of others; appreciate the impact various options would have on what others consider valuable.
- WORK THROUGH the conflicting emotions that arise when various options pull and tug on what people consider valuable.

### **3** How can we know if we are making progress?

By constantly testing your group:

Can your group make the best case for the option least favored?

Can it identify the negative effects of the option most favored?

### **4** What will be the effects of deliberation?

Movement from first reactions and mass opinions toward a more shared and stable PUBLIC JUDGMENT.

The emergence of a PUBLIC VOICE, one different from the voice of personal preference or special interest pleadings.

Increased COMMON GROUND FOR ACTION found in a greater ability to:

- Identify how people came out on the conflicts, contradictions, and trade-offs, and what they were willing, and not willing to do to solve the problem.
- Identify any shared sense of purpose or policy direction and a range of actions that were consistent with one another.
- Understand the implications of how citizens sensed their interdependence on the issue and its implications for community action.

**NATIONAL ISSUES FORUMS RESEARCH  
100 COMMONS ROAD  
DAYTON, OHIO 45459-2777  
1-800-433-7834**

APPENDIX L

MODERATOR GUIDE: AT DEATH'S DOOR:  
WHAT ARE THE CHOICES?



# NATIONAL ISSUES FORUMS MODERATOR GUIDE 1997-1998

*A Different Kind of Talk,  
Another Way to Act*

Making choices about how to deal with community issues is difficult because different people favor different approaches, and the options for action may contradict or conflict with one another. Certainly any strategy for action will have costs that have to be taken into consideration and consequences that have to be anticipated, as best we can. At the root of the questions of costs and consequences, and behind each approach, lies a range of concerns that, while common to many people, nonetheless pulls them in different directions both individually and collectively. People have to "work through" these conflicts and deal with the trade-offs until they come not necessarily to full and complete agreement, but to the point that they have a shared sense of direction for moving ahead and some idea of what people are and aren't willing to do to solve a problem. Often we live all our lives somewhere between complete agreement and complete disagreement. Public action becomes possible when citizens discover where their interests are interconnected.

## **AT DEATH'S DOOR**

What Are the Choices?

### **Choice 1: Let Patients Die with Dignity**

Physician-assisted suicide is a humane way of death. What's more, it's widely and secretly practiced today. We should legalize and regulate it to prevent errors and abuses that can occur in secret — and to ensure that dying patients have equal access to this practice.

### **Choice 2: Improve Care for the Dying**

Dying patients often suffer needlessly in our health care system, which routinely ignores patients' final wishes concerning treatment. Let's fix the system, and start by giving patients more relief from their symptoms and more control over their treatment.

### **Choice 3: Above All, Sustain Life**

Life is invaluable and inviolable, and society and the medical community must strengthen their commitment to preserving life. Medical science has extended life, and now some want to abuse this science to shorten life. That would only undermine society and medicine.

NATIONAL ISSUES FORUMS RESEARCH  
100 COMMONS ROAD  
DAYTON, OHIO 45459-2777  
1-800-433-7834

## THE MODERATOR'S ROLE

Deliberation with fellow citizens is necessary when we have to make decisions on matters that are very important to us, when there are competing approaches to solving a problem. Deliberation occurred in America's earliest town meetings. Privately, we deliberate when we have a difficult decision to make about an important matter in our lives and have to weigh several options carefully. In our private lives we have learned that we can seldom have everything and we must make choices. Likewise, in public life citizens must choose among options, all of which may be attractive. That, in a nutshell, is what deliberation is — weighing carefully the various approaches, the pros and cons of each option, and the views of others about what should be done. A deliberative dialogue is a chance to explore, to test ideas, and to look at the ambiguities or gray areas rather than seeing only the stark black and white of polar opposites.

### Deliberation requires the moderator to:

- Move the conversation beyond the sharing of stories to looking at costs and consequences of the options.
- Make sure the best case/positive side of all options are considered and understood. To diminish an option is to stop deliberation. There are major differences about which options would be best or which direction to take. These differences must be clear and not covered over. To fail to consider an option or diminish an option keeps important differences from surfacing.
- Stay with deliberation until participants see that the issue framed on what is valuable to people and until they have identified the conflicts among the approaches.
- Recognize that forums seldom end in total agreement or total disagreement. Forums frequently end in a discovery of a shared sense of purpose or recognition of how interests are interconnected.



### To Hold Counsel With One Another

*The whole purpose  
of democracy is that  
we may  
hold counsel with  
one another,  
as not to depend  
on the understanding  
of one person  
but to depend  
on the counsel  
of all.*

Woodrow Wilson 1912



Forums do change people's opinions of others' opinions. Those changes in perception create new possibilities for acting together, generating the political will to move ahead.

## **SUGGESTED FORMAT FOR AN NIF FORUM OR STUDY CIRCLE**

### **WELCOME**

Let participants know who is sponsoring the forum/study circle. Stress the co-sponsorship if several organizations are involved.

### **BALLOT (PRE-FORUM)**

Remind people that the Pre-Forum Ballot is a way to get everyone focused on the issue and a way for each participant to take inventory of initial feelings on the issue. Tell them there'll be another questionnaire for them after these deliberations end.

### **GROUND RULES**

*MAKE CLEAR THAT THE FORUM IS NOT A DEBATE.* Stress that there is work to do, and that the work is to move toward making a choice on a public policy issue. The work will be done through deliberation. Review the chart "How do we do it?" (see page 8). The responsibility for doing the work of deliberation belongs to the group. Deliberation is necessary because there are competing approaches to solving the problem.

### **STARTER VIDEO**

Explain that the video reviews the problems underlying the issue, then briefly examines three or four public policy alternatives. In so doing, it sets the stage for deliberation.

### **PERSONAL STAKE**

Connect the issues to people's lives and concerns — in the first few minutes — by getting participants to talk about their personal experiences with the issue, and to tell their stories. This makes the issue genuine, human rather than abstract. Some questions you might ask include: "Has anyone had a personal experience that illustrates the problems associated with this issue?" "Within your family, or circle of friends, is this an important issue?" "What aspects of the issue are most important to you?" "How does the issue affect people?"

## THE FORUM DELIBERATION

Consistent with what deliberation is, moderators ask four basic questions in a forum:

### 1

*What is valuable to us?* This question gets at why making public choices is so difficult: the options turn on things which people care about very deeply, such as being secure or being treated fairly. This question can take many forms:

- How has this issue affected you personally? (Usually asked at the beginning.)
- What things are most valuable to people who support this option?
- What is appealing about this option?
- What makes this option a good idea — or a bad one?

### 2

*What are the costs or consequences associated with the various options?* This question can take any number of forms as long as it prompts people to think about the likely effects of various options on what is valuable to them. Examples include:

- What would result from doing what this option proposes?
- What could be the consequences of doing what you are suggesting?
- Can you give an example of what you think would happen?
- Does anyone have a different estimate of costs or consequences?

### 3

*What are the tensions or conflicts in this issue that we have to work through?* As a forum progresses, moderators will ask questions that draw out conflicts or tensions that people have to “work through.” They might ask:

- What do you see as the tension between the options?
- Where are the conflicts that grow out of what we’ve said about this issue?
- Why is this issue so difficult to decide?
- What are the “gray areas”?
- What remains unsolved for this group?

### 4

*Can we detect any shared sense of purpose or how our interdependence is grounds for action?* In the very first few minutes of a forum, the moderator should remind people that the objective is to work toward a decision. Then, as the tensions or conflicts become evident, as people see how what they consider valuable pulls them in different directions, the moderator will test to see where the group is going with questions like:

- What direction seems best, or where do we want to go with this policy?
- The moderator can follow-up to find out what people are or are not willing to do or sacrifice to solve a problem with such questions as:
  - What trade-offs are we willing to accept?
  - What trade-offs are we unwilling to accept?
  - What are we willing to do as individuals or a community to solve this problem?

## ENDING A FORUM

Before ending a forum take a few minutes to reflect both individually and as a group on what has been accomplished. Questions like the following have been useful:

- I. Individual Reflections
  - How has your thinking about the issue changed?
  - How has your thinking about other people's views changed?
  - How has your perspective changed as a result of what you heard in this forum?
- II. Group Reflections
  - What didn't we work through?
  - Can we identify any shared sense of purpose or direction?
  - What trade-offs are we, or are we not, willing to make to move in a shared direction?
- III. Next-Step Reflections
  - What do we still need to talk about?
  - How can we use what we learned about ourselves in this forum?
  - Do we want to meet again?

## BALLOT (POST-FORUM)

The Post-Forum Ballot is a way to face the conflict within ourselves. Often we discover aspects of each choice we hold most valuable. Yet, the things we care deeply about are often in conflict. The ballots, along with other information, are important in discovering a Public Voice. Send both Pre- and Post-Forum Ballots to:

National Issues Forums Research  
100 Commons Road  
Dayton, Ohio 45459-2777

### Suggested Time Line

### Stages of a Forum/Study Circle

15% for Opening

**Welcome** — The convenor or moderator introduces NIF program.  
**Ballots** — Participants complete Pre-Forum Ballots before discussion begins.  
**Ground Rules** — Participants review desired outcomes of the forum.  
**Starter Video** — The starter video sets the tone for the discussion.  
**Personal Stake** — Connect the issue to people's lives and concerns.

65% for Deliberation

**The Deliberation** — Participants examine all the choices.

20% for Discovering the Shared Sense of Purpose and Ending the Forum/Study Circle

**Ending the Forum** — Reflect on what has been accomplished.  
**Ballots** — Participants complete Post-Forum Ballots.

## AT-A-GLANCE SUMMARY

### AT DEATH'S DOOR

#### What Are the Choices?

This issue is about more than physician-assisted suicide. It is about the evolving rights of patients, medical ethics, societal norms, and the quality of care patients receive when they become very ill.

Because of advances in medical technology, death is no longer just a natural event but, in many cases, a debatable medical procedure, often following a decision to forego or discontinue life-sustaining treatment. Meanwhile, patients are seeking more control over the circumstances of their death — particularly when, for many patients, the dying process is a gauntlet of high-tech care, unwanted treatments, severe pain, and depression.

Some will object to a deliberative discussion about what to do at death's door. For these individuals there are no choices, the only course is to follow the teachings of their religious faith. Yet, others feel that their life's experience says that we must have open deliberation about other choices.

In 1994, Oregon voters legalized physician-assisted suicide and established rules for screening patients, intended to make sure patients seeking physician-assisted suicide are competent, terminally ill, in great pain, and intent on ending their lives. The law has been stayed pending judicial review. So at death's door is not an abstract conversation but a real, active, public policy question which is before us. What should be done?

This issue is also about health care coverage, insurance, and state and federal assistance to those who may or may not be at death's door. Is depression a medical problem that requires the government set standards about which public policy is best?

This issue is about difficult questions of individual rights versus societal rights, societal trends versus tradition, technology versus human touch, and law versus practice.

## Choice 1: Let Patients Die with Dignity

Society must protect life, but must also protect the right to a humane death. When near death and in unbearable pain, patients should be able to receive a physician's assistance in ending their lives. It happens now anyway, but in a secretive way that spawns error and abuse. Let's regulate it.

### POSSIBLE ACTIONS

- Legalize physician-assisted suicide, making it a socially accepted stigma-free medical procedure for the relatively few patients who qualify.
- Enact strict rules and medical screening procedures for physician-assisted suicide. Among other things, rules would restrict these practices to mentally competent adults who are terminally ill, suffer unbearable pain, and make repeated requests for help in ending their lives.
- Permit physicians to practice physician-assisted suicide by administering a lethal medication when a competent adult meets all the other guidelines but is physically unable to commit suicide alone.
- Prosecute physicians who violate any of these laws and rules.
- Require insurers to provide health and life insurance benefits to people who commit suicide under a doctor's care.

### IN OPPOSITION

- Once legal, a right to die could become a duty to die for patients who feel financial or emotional pressure from relatives, medical professionals, or insurers.
- Some say government should not decide who qualifies for assistance in suicide. They say physicians should help anyone in pain.
- Nearly all suicidal people are depressed and need treatment, not death. Requests for assisted suicide come mostly from chronically ill, not terminally ill, patients who suffer more from anxiety than pain.
- Given current pressures to ration health care, legalizing physician-assisted suicide would create impossible conflicts of interest and undermine public trust in medicine.

### POSSIBLE TRADE-OFFS

Would you:

- be willing to let a loved one near death and suffering severe pain choose death, **EVEN IF** depression is a major factor?
- support this choice, **EVEN IF** there is absolute objection by your religious community?
- favor this choice, **EVEN IF** a sixteen-year-old person requests assisted suicide?
- not allow assisted suicide, **EVEN IF** you would support physicians who legally withdraw medical treatment for a member of your family?

### Choice 2: Improve Care for the Dying

Extraordinary public consideration of physician-assisted suicide is the societal equivalent of an individual suicide attempt, which is nearly always a depressed person's cry for relief of pain and suffering, not death. Society should respond to this public cry for help, by greatly improving the care of dying patients. Nothing must be done to hasten or prolong the dying process. This choice calls for improving the end of life with improved comfort care, pain management, and mental health treatment. To accomplish this, patients must be given more information and more control over their treatment, and medical professionals need more training in the care of the dying. Legal and insurance reforms are needed to ensure that patients receive appropriate care. Once the system is fixed, suicide will no longer be an issue.

#### POSSIBLE ACTIONS

- Expand palliative care, which provides as much comfort as possible to patients at every stage of their illness and treatment. (Palliate: to lessen the pain without curing.)
- Insist that insurers cover palliative and hospice care.
- Make ignoring a dying patient's directive or allowing a patient to suffer needless pain standard grounds for a finding of malpractice.
- Remove barriers to effective pain management, including inadequate training of physicians and nurses and overly restrictive regulation of narcotics.
- Provide mental health care for terminally ill patients, who are prone to mental suffering, especially depression.

#### IN OPPOSITION

- Opposes physician-assisted suicide, but supports physicians who treat pain with such large doses of medication that the patient may die. Medicating patients to the point of death is a way some physicians disguise mercy killing.
- When about 40 million Americans lack basic health insurance, it's highly questionable whether the nation can find money to expand coverage for pain management, home nursing, and psychiatric treatment for terminal patients.
- Treatment cannot help patients who are wasting away, losing control of bodily functions, and feeling utterly dependent on others. Shouldn't these patients have a right to end their lives?
- In calling for more patient control over care, this choice ignores a very important fact: physicians are the medical experts. Allowing patients to issue directives about their treatment would inevitably cause premature death.

#### POSSIBLE TRADE-OFFS

Would you:

- be willing to depend on hospice care for yourself, **EVEN IF** at this time 90% of the hospice patients only receive home care and not institutional care?
- depend on physicians to be responsible for your pain management, **EVEN IF** most are, at present, inadequately trained in pain management?
- make ignoring a dying loved one's directive or allowing your loved one to suffer needless pain grounds for malpractice, **EVEN IF** this limited the best judgment of the medical team?
- expand mental health counseling for terminally ill patients at public expense, **EVEN IF** this cost would result in cut backs in other services for the terminally ill?

### Choice 3: Above All, Sustain Life

Life is invaluable and inviolable, and society and the medical community must strengthen their commitment to preserving it. Medical science has extended life, and now some want to abuse science to shorten life. That would create confusing public policies and weaken public trust in medicine. Assisted suicide is a crime. Any retreat from this absolute responsibility to sustain life leads to a society where the value of life is merely relative to the shifting concerns of the day. This calls for recommitting the whole force of society to each patient's struggle to get well.

Choice Three insists that physicians stop making these life-and-death decisions about treatment, especially since physicians acknowledge that they can rarely locate the point when treatment becomes futile.

#### POSSIBLE ACTIONS

- Enact a federal law banning all forms of physician-assisted suicide. Oppose state legislation and ballot measures that seek to legalize physician-assisted suicide.
- Require that physicians obtain patients' or families' consent before withdrawing or withholding life-preserving treatment.
- Redouble efforts by medical societies to ensure that physicians do everything possible to sustain life; it's *not their business to decide who should live or die*.
- Strengthen criminal laws by imposing mandatory minimum penalties and prison sentences for physicians who assist in suicide.
- To further deter these practices, enact civil laws that make it easier to bring malpractice suits against physicians who assist in a suicide.

#### IN OPPOSITION

- When 10 million children have no health care coverage, the nation should not expand life-sustaining treatments that are often futile and unwanted by dying patients.
- Physician-assisted suicide is now widely practiced in secret, inviting error and abuse. We should legalize it and regulate it.
- Government should not force people to live when they suffer unbearable pain and are near death.
- This choice would expand use of aggressive lifesaving treatments in a costly and wasteful manner.

#### POSSIBLE TRADE-OFFS

Would you:

- encourage medical societies to ensure that physicians do everything possible to sustain life, **EVEN IF** someone important to you was near death, in terrible pain, and wanted his or her life to end?
- follow the teachings of your religious faith about ending life, **EVEN IF** someone in your family was near death, had lost control of bodily functions, in great pain, and wanted to die?
- feel that the only way to respond to a request for physician-assisted suicide is by providing the best care possible including mental health counseling, **EVEN IF** someone very important to you rejected aggressive lifesaving treatment and wanted to be in control by issuing directives about his or her own wishes?
- hold to this choice of physicians never making life-and-death decisions and only try to sustain life, **EVEN IF** someone you care a great deal for is in pain, and is determined to see that his or her life ends and asks for and needs help in their decision to die?

## NIF FORUMS AND STUDY CIRCLES

### 1

#### **Why are we here? What are we going to do?**

We are here to move toward a public decision or CHOICE on a difficult issue through CHOICE WORK.

### 2

#### **How do we do it?**

Through a deliberative dialogue in which we:

- Understand the PROS and CONS of every option, its COSTS AND CONSEQUENCES.
- Know the STRATEGIC FACTS and how they affect the way the group thinks about each option.
- Get beyond the initial positions people hold to their deeper motivations — the things people consider to be most valuable in everyday life.
- Weigh carefully the views of others; appreciate the impact various options would have on what others consider valuable.
- WORK THROUGH the conflicting emotions that arise when various options pull and tug on what people consider valuable.

### 3

#### **How can we know if we are making progress?**

By constantly testing your group:

Can your group make the best case for the option least favored?

Can it identify the negative effects of the option most favored?

### 4

#### **What will be the effects of deliberation?**

Movement from first reactions and mass opinions toward a more shared and stable PUBLIC JUDGMENT.

The emergence of a PUBLIC VOICE, one different from the voice of personal preference or special interest pleadings.

Increased COMMON GROUND FOR ACTION found in a greater ability to:

- Identify how people came out on the conflicts, contradictions, and trade-offs, and what they were willing, and not willing to do to solve the problem.
- Identify any shared sense of purpose or policy direction and a range of actions that were consistent with one another.
- Understand the implications of how citizens sensed their interdependence on the issue and its implications for community action.

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