2013

A Descriptive Study of Second Year ADN Students on the Use of Study Groups Outside the Classroom

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by

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A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs

2013

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Abstract

Study groups formed independently by students outside the classroom environment have been reported to provide some positive assistance to the learning process. This study was conducted to define the frequency that students use such study groups, to establish any relationship between using study groups and academic outcome, and to identify any themes common to the participants when describing their perceptions and experiences with study groups. The study utilized a previously-published survey tool acquired from the public domain. Forty-five ADN students enrolled at a private, Christian university participated in this study. Sample mean age of participants was 25.7 years of age. No significant relationship was found between academic performance on exams and use of study groups outside the classroom. However, study groups were being utilized by the majority of participants, who also reported a desire to receive instructions on how to develop and utilize study groups productively.

Acknowledgements

I would like to express my appreciation to the faculty of the Master's Degree in Nursing Program at Gardner Webb University for their support and guidance. To Dr. Candice Rome, my thesis advisor, I give my gratitude for encouraging me as an ADN student to continue my educational journey and for being there with me at the conclusion of this journey. I thank Dr. Rebecca Beck-Little and Dr. Mary Alice Hodge for their inspiration to succeed. I am also forever grateful to Dr. Reimund Serafica and Dr. Susan Lane for the research topic discussions that have resulted in a very long list of research "gaps" that I will aspire to one day fill. To my wonderful daughter and granddaughter, thank you for all of your support, love, and understanding throughout this quest. To Ronda, a big thank you to the best friend God ever could have sent to me.

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CHAPTER I

Introduction

Background

Academic performance during college undergraduate years can greatly influence an individual's future career choices and opportunities (Tan, 1991). Therefore, it is important for the student to explore all available learning resources in achieving academic success. Cooperative, or collaborative, education has emerged as a preferred method of instruction above lecturing alone (Pope & Shaw, 1981). Cooperative learning utilizes small groups of three to five students working as a team in an effort to optimize the individual and group learning experience (Johnson, Johnson, & Holubec, 1993). The instructor often arranges student groups in the cooperative learning environment. Research has shown that such a teamwork-oriented approach yields positive student outcomes (Crowe & Hill, 2006). However, there is limited research about student-directed study group usage outside of the classroom.

The concept of cooperative learning emerged as a result of decades of researching how people learn (Herried, 1998). Numerous studies have been conducted comparing student performance of those taught through traditional lecturing and those instructed utilizing cooperative learning methods (Herriod, 1998). The overall impression of these research efforts indicates that cooperative learning methodology encourages greater understanding and an increase in knowledge retention (Peterson & Miller, 2004). Sokolove and Marbach-Ad (1999) have reported that studying with in-class team members assisted students to achieve higher marks than those students that chose not to study with in-class team members.

Student-formed study groups outside the classroom are often encouraged, but not mandated by instructors (Rybczynski & Schussler, 2011). Petress (2004) reports that self-directed study groups are often believed to assist students in raising their academic marks as well as increasing the students' interpersonal communication skills and diversity awareness. The majority of students that participated in voluntary online study groups reported positive experiences utilizing the online study group format (Sokolove, Marbach-Ad, & Fusco, 2003). Students joining out-of-class undergraduate biology study groups in a face-to-face format also reported these study groups as being helpful (Rybczynski & Schussler, 2011). Johnson, Johnson, and Smith (1998) have identified five central elements of successful cooperative learning: (a) individual student success must be linked to success of group members, (b) active learning is necessary, (c) individual student and group accountability must exist, (d) teamwork skills must be learned in addition to course content materials, and (e) evaluation of group progress is done by the students. Student-directed study groups outside of the classroom are usually formed for a short period of time, exist for a defined purpose such as exam preparation, and are usually informal in nature (Tang, 1993).

Nursing has been described as a collaborative and teamwork-oriented profession (Bnurs, 1999). Nursing education is increasingly becoming collaborative and cooperative in nature, utilizing more group project interactive opportunities (Ishida, Ako, & Sekiguchi, 1998).

Significance

The significance of this study was to determine the actual usage of independently-formed collaborative study groups outside the classroom setting by Associates Degree of Science in Nursing (ADN) students, and to test the hypothesis that a relationship exists between participating in study groups outside the classroom and student performance on nursing course exams. This study also aimed to identify any common themes among student responses when describing why study groups were or was not utilized, including any preconceived ideas regarding study groups.

Limited research has been conducted concerning the use of study groups outside the classroom by nursing students. There is also little published regarding whether or not these study groups are beneficial to academic performance in the nursing student population. This lack of research prompted this study.

Theoretical Framework

This study followed the conceptual framework Personal Construct Theory conceived in 1955 by George Kelly. This personality theory is formulated around a fundamental postulate that an individual's processes are psychologically channeled by the way he/she anticipates events (Kelly, 1955). This differs from many previously established behaviorist theories that uphold the belief that a person's processes are psychologically formulated as reactions to events (Kelly, 1955). Kelly's approach was a phenomenological one, essentially stating that man's personal identity is formed by how he understands his personal world. In Kelly's domain, man is his own scientist (Kelly, 1955).

Kelly (1955) established the fundamental postulate as connected to several corollaries including: construction, individuality, organization, dichotomy, choice, range, experience, modulation, fragmentation, commonality, and sociality. The individuality corollary states that people construe events differently and this is what actually makes people different from one another. Kelly (1955) does point out that people who have shared experiences may very well construe these events in similar ways.

According to Kelly's theory, one's understanding is a series of formed ideas, or constructs. It has been reported that an environment that fosters constructivist learning also increases positive student outcome (Leonard, 2000). Cooperative education has been shown to enhance the constructivist learning environment (Melrose & Shapiro, 1999). Forrest and Miller (2003) have presented supportive evidence that a student's experience with cooperative learning in the form of group study in the past can alter their current perception of group or cooperative learning activities. Rybczynski and Schussler (2011) identified common preconceptions among students in an undergraduate biology class that affected their decision to join a study group outside the classroom. Six themes emerged as students' preconceived views regarding study groups: (a) group composition is important, (b) all group members should be equally committed, (c) problem of lack all study group productivity, (d) lack of focus and distracting, (e) social learning has inherent value, and (f) individual learning is preferred (Rybczynski & Schussler, 2011).

The Personal Construct Theory can include the use of the repertory grid technique, a device that can reveal how people experience events and the world around them (Kelly, 1955). George Kelly developed this tool as a way for individuals to describe their views on any given topic and essentially "map it out" in a mathematical

manner (Kelly, 1955). The repertory grid contains elements and constructs. In a study by Melrose and Shapiro (1999), repertory grid technique was utilized as a framework to describe nursing student's perceptions of psychiatric clinical experiences. The elements in the study are specific to particular area of interest, such as "holding a patient's hand" or "wearing street clothes on the unit" (Melrose & Shapiro, 1999). Constructs are not to be confused with concepts. Essential characteristics of constructs are that they are bipolar in nature and help to form anticipatory behavior (Kelly, 1955). For example, in the Melrose and Shapiro (1999) study, constructs such as "professional", "unprofessional", "therapeutic", and "nontherapeutic" were used in their repertory grid. The elements are often grouped into sets of three and the participant chooses constructs that are associated with two of the elements and differentiates the third by choosing a completely opposite (polar) construct. The responses from all questions form a numerical outlook on how the person views the experience (Kelly, 1955). Kelly's Personal Construct Theory has been shown to be useful in evaluating learned information in traditional lecture classes and in cooperative education (Fromm, 1993). The Personal Construct Theory has been used to study nursing students while transitioning to new graduate nurses (White, 1996).

The fundamental postulate is relevant to all anticipated experience; however, not all corollaries are relevant to each situation (Kelly, 1955). The process of deciding to join a study group as it relates to this study involves the fundamental postulate, the construction corollary, and the experience corollary. A nursing student anticipates the possibility of joining a study group outside the classroom. This represents the construction corollary. The fundamental postulate then follows in that the student is

actively anticipating the event, while formulating preconceptions about the study group. The experience corollary occurs as input from the event that may or may not change future behavior. Figure 1 reflects the decision-making process to join a study group using Kelly's Personal Construct Theory.

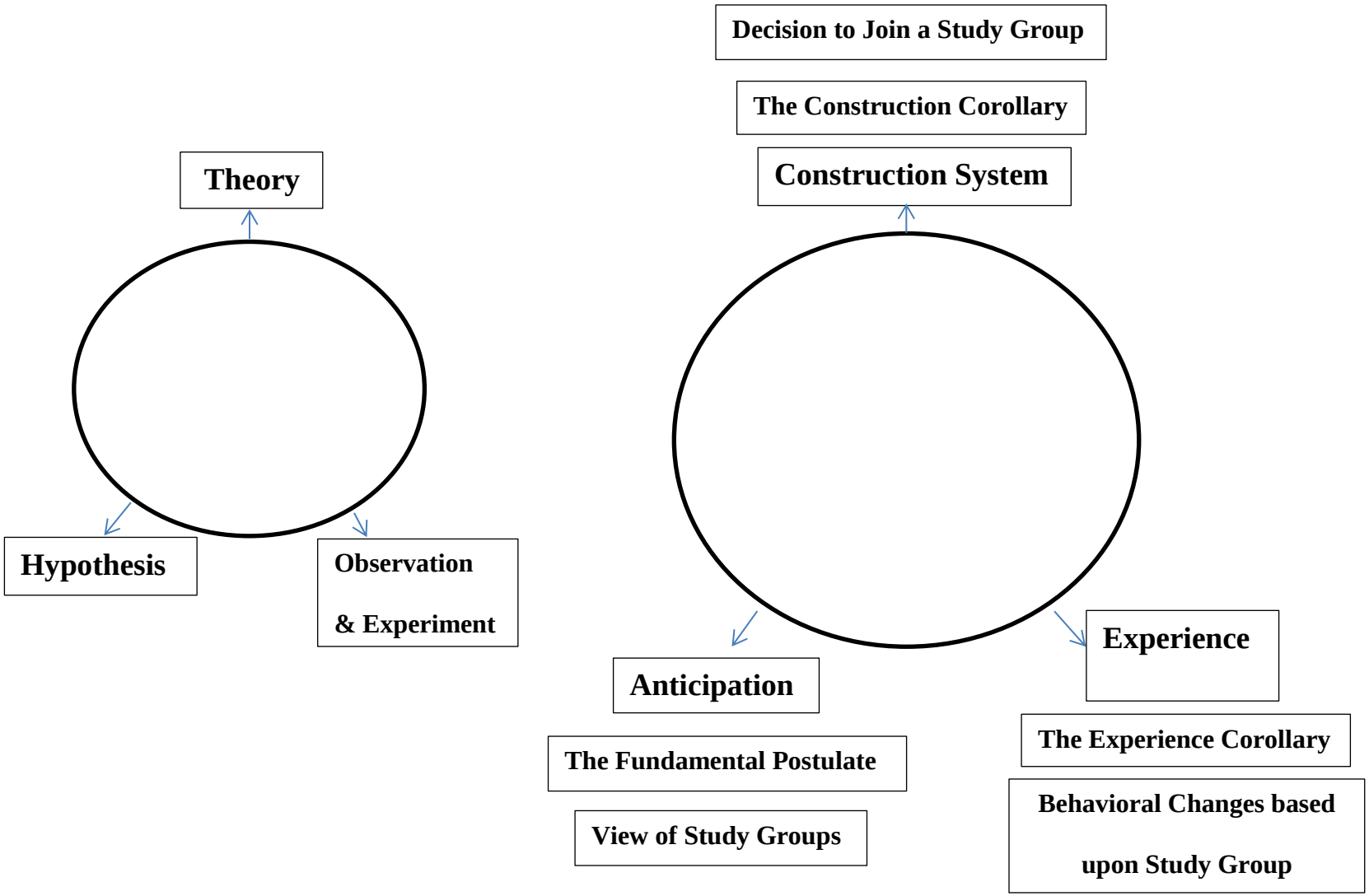

Figure 1: Kelly's Personal Construct Psychology Model as it Reflects Input on Study Groups

Purpose and Rationale

The purpose and rationale of this study was to investigate the use of study groups outside the classroom environment. The following research questions were considered for this study:

- Are students using study groups?
- Does a relationship exist between study group participation and student academic performance?
- Are there common themes in student preconceptions about study groups?

Summary

The purpose of this study was to explore the use of study groups among ADN student outside of the classroom setting to identify any relationship between student academic test scores and active participation in out-of-class study groups. This study was guided by Kelly's conceptual framework, Personal Construct Theory.

CHAPTER II

Literature Review

The purpose of this study was to explore the use of independently formed study groups outside the classroom environment and identify any relationship between participating in a study group and student academic outcomes. This study attempted to identify common themes among participant responses when describing reasons why study groups were or were not used and included any preconceived ideas regarding study groups.

Review of the Literature

A limited review of literature used for research is included. Database searches including Cumulative Index for Nursing and Allied Health Literature (CINAHL) and Google Scholar were used with the following key words: student study groups, personal construct theory, independently formed, cooperative education, students' perceptions, teamwork, out-of-class, and constructivism.

Personal Constructs

The perceptions that nursing students had regarding a mental health clinical experience were described in a case study by Melrose and Shapiro (1999). The authors utilized the Personal Construct Theory and repertory grid technique developed by George Kelly as theoretical framework and evaluation tool methodology. Participants included six Canadian second year Baccalaureate program nursing students (Melrose & Shapiro, 1999). This qualitative study identified three themes: (a) anxiety experienced by the students was primarily due to inability to help patients, (b) students felt excluded from staff nursing groups, and (c) students felt that non-evaluated discussion time with the

instructor was important (Melrose & Shapiro, 1999). The three themes that emerged from this descriptive study provide useful information for instructors and affirm the positive use of personal construct theory in a nursing environment. The subject number used in this study was quite small and a larger population study may yield more information.

Evaluating learning in higher education was investigated in a study by Fromm (1993). Using personal construct theory and techniques, the researcher conducted this study with participants including college students enrolled in a university seminar setting. The author set out to describe the kind of learning that actually takes place from the focus of learning as personal construing (Fromm, 1993). Results reveal that students often learned information other than what was intended to be taught. One important result of this study is that acquiring knowledge, as personal construction, requires a flexible environment and the author suggests ways to evaluate this type of learning (Fromm, 1993). Information gained from this study should be reevaluated when compared to future studies of a similar design, particularly with different courses of study.

Candy (1989) reviewed personal construct learning and further explored the offset concept of self-direction, which can influence the individual's personal construct formation. Four phenomena describing the concept of self-direction are: (a) personal autonomy, (b) self-management, (c) learner control, and (d) autodidaxy, or pursuing learning in a non-institutional manner (Candy, 1989). Information gained from this review is useful in describing qualities that help determine how a person best learns and how educators can best foster learning in those individuals who identify themselves as being self-managers or self-determined individuals (Candy, 1989).

In the study entitled "Not another group project: Why good teachers should care about bad group experiences", the title most aptly describes the study's purpose (Forrest & Miller, 2003). The authors explore the concept that experiences from past group work can sway perceptions and create preconceptions regarding present group experiences (Forrest & Miller, 2003). University students were assigned to either a positive or a negative group experiences. Results indicate that, as expected, those assigned to the positive group experience were satisfied with work progress but no effect was observed on personal performance satisfaction or agreement to perform future group work (Forrest & Miller, 2003). Those students assigned to the negative experience group were very negative towards current and future group work, and this experience also significantly influenced satisfaction with individual and group performance. The authors conclude that negative group experiences do form negative perceptions about group work in the future (Forrest & Miller, 2003).

In 1981, Pope and Shaw described what they saw as a revolution in education stemming from dissatisfaction with the traditional lecturing model of learning. The ideas of group, independent, and interdependent learning were explored utilizing the learning evaluation tools, PEGASUS and SOCIOGRIDS, derived from George Kelly's repertory grid techniques (Pope & Shaw, 1981). This time period also witnessed the boom of computers, and it is interesting to note that this technology and Kelly's personal construct theory have been intrinsically linked for decades. The authors conclude that the self-tested SOCIOGRIDS method "allows the learner to reflect on his personal model whilst offering each member of the group the facility to become aware of the inter0relationships between ideas within the group" (Pope & Shaw, 1981, p. 231). This further supports

personal construct theory as a valid and descriptive way to understand how people learn and construct their personal worlds.

An investigation aiming to gain insights regarding communication between members of the health care field examined the use of small group discussions by nursing students (Franks, Watts, & Fabncius, 1994). Nine students met weekly over a six-month period during clinical rotation. The meetings were casual in nature, focusing on interpersonal relationships between patients and the nursing students (Franks et al., 1994). Kelly's personal construct theory and repertory grids were used for evaluation purposes. The study concluded that the students had elevated anxiety and were hesitant to truly self-reflect within the small group discussions. The study was limited in terms of sample size and data recorded, but holds merit in that it reinforces some concepts noted in previous studies about small group discussions in educating nursing students (Franks et al., 1994).

Cooperative Learning

Cooperative education, or active-learning methodology, is not always well-received by students or instructors (Phipps, Phipps, Kask, & Higgins, 2001). University students were asked to complete surveys regarding viewpoints about cooperative education. Sample size was 210 participants and the results are somewhat contradictory. Some techniques in cooperative learning received positive evaluations while others yielded more negative results on the surveys (Phipps et al., 2001). The authors encourage institutions of higher learning to increase students' receptivity to techniques of active learning and cooperative education (Phipps et al., 2001).

Peterson and Miller (2004) report that educational experiences of college undergraduate students were more positive and productive during small group activity than during large group instruction. Psychology students were placed in small groups for discussion activity and perceptions of the experience were measured and compared to perceptions obtained during larger group lectures (Peterson & Miller, 2004). Reported benefits to the smaller discussion groups included: (a) improved thinking on task, (b) higher student engagement, (c) increased perceptions of task importance, and (d) optimal levels of challenge and skill (Peterson & Miller, 2004). Negative reports from students included a greater difficulty concentrating and higher levels of self-consciousness while in small groups (Peterson & Miller, 2004).

While there are many studies reporting beneficial outcomes from active learning cooperative learning techniques in the classroom, many difficulties are cited that impede successful implementation (Crowe & Hill, 2006). Fostering the use of group learning in order to effectively create a positive experience and future perception of cooperative education is essential (Crowe & Hill, 2006). The authors describe the use of group contracts to elicit personal responsibility from all group members. This is responsibility to themselves and to the mission of the group (Crowe & Hill, 2006). Team-building activities are listed and methods for team members to evaluate group progress are also offered. The article is a very practical, hands-on approach to making cooperative learning a positive and productive experience (Crowe & Hill, 2006).

Many educators have expressed the desire to employ cooperative education methodology, but lack resources that offer direction (Wood, 2009). This descriptive study explores some novel techniques in creating equitable cooperative learning groups

in the classroom setting, incorporating learning activities of visual, auditory, kinesthetic, cooperative, and social natures (Wood, 2009).

A large share of the difficulty in implementing cooperative learning methodology lies in successfully "selling" the idea of increased student outcome benefits to both students and institutions of higher learning (Ishida et al., 1998). A study by Ishida et al. (1998) describes a program containing cooperative education modalities. The program was elective in nature and participants included undergraduate Baccalaureate nursing students at the University of Hawaii (Ishida et al., 1998). Results include positive survey scores for the cooperative education program in general and participants gave high value ratings to the program for its benefit to future employment opportunities (Ishida et al., 1998)

A comparison of cooperative education methodology and other teaching techniques in benefitting nursing student outcome was explored (Baumberger-Henry, 2005). The investigator sought to measure the students' perception of their problem-solving and decision-making abilities (Baumberger-Henry, 2005). Students (N= 123) from three associate degree colleges participated in the study. The first (experimental) group (n=31) was instructed using case study and cooperative learning in small groups. The second group (n=46) was taught by case study and lecture, and the third group (n=24) was instructed by lecture only. A control group (n=22) was taught by lecture and intermittent non-cooperative learning groups with a continual case study. This last group was utilized for purposes of a control post-test only (Baumberger-Henry, 2005). The results revealed no significant differences between any two groups at the $p=0.5$ level.

The experimental group did rate higher scores for self-perception of decision making and problem-solving abilities (Baumberger-Henry, 2005).

Independent Study Groups

The question was posed whether pedagogical methodology affected college undergraduate student behavior towards study groups (Sokolove & Marbach-Ad, 1999). Students were surveyed regarding their use of study groups outside of the class environment and whether coursework instruction was implemented though active learning methods or lecture based (Sokolove & Marbach-Ad, 1999). The researchers determined that those students utilizing out-of-class study groups on a regular basis did perform better on exams than students that chose not to use study groups. Pedagogical methods of teaching did not make a significant difference on test performance; however students in the cooperative learning class reported that they were more apt to participate in study groups outside the classroom (Sokolove & Marbach-Ad, 1999).

Petress (2004) emphasizes the importance of group study in a review article on the positive aspects of studying in groups. The author cites an increase in student intellectual contributions and student academic confidence, as well as arousing intellectual interests when using self-directed study groups (Petress, 2004). Attributes contributing to successful student group study include: (a) sharing of ideas, personal and collective time management, and task preparation,(b) group members' willingness to join, (c) group member cooperation, and (d) collective responsibility. Petress (2004) also remarks that students are often unwilling to participate in study groups due to a fear of the unknown, and often change mindsets once they experience positive group study management and better understand study group methodology.

First year medical students that were perceived to possibly have academic performance difficulty based upon Medical College Admission Test (MCAT) scores were given the option to participate in a six-month pilot intervention program that used formal study groups outside the classroom (Devoe et al., 2007). The study's aim was to assess this method of student academic assistance (Devoe et al., 2007). Study participants include 13 medical students that met biweekly for up to two hours each meeting. Multiple-choice quizzes were given to assess content understanding and retention (Devoe et al., 2007). Mean exam scores were compared for the following groups: (a) students with MCAT scores < 25 that participated in this pilot program, (b) students with MCAT scores > 25 that did not participate in this program, (c) students from the previous year with MCAT scores < 25, and (d) students from the previous year with MCAT > 25 (Devoe et al., 2007). Results showed no significant differences among the groups' exam scores, but the authors note that content was the primary focus of study groups and perhaps learning strategies should have been the study group focus (Devoe et al., 2007).

Spontaneous Collaborative Learning (SCOLL) is the terminology used by Tang (1993) to describe the variety of study groups that spontaneously forms and is entirely student self-directed. The project explored a student population including 39 third-year physiotherapy students in Hong Kong. Quantitative test scores and qualitative survey responses indicate that SCOLL allowed for higher-level learning strategies when compared to studying individually (Tang, 1993). Improved student academic progress on assignment quality and complexity was also noted for students that participated in SCOLL (Tang, 1993).

Perceptions that university students have regarding the use of self-managed study groups were explored to determine and describe process issues while using this teaching method (Lizzio & Wilson, 2005). The sample population for the first part of the study included 180 undergraduate psychology students that actively participated in self-managed study groups (Lizzio & Wilson, 2005). Interviews, observation, and students' written statements were used for this first portion of the study (Lizzio & Wilson, 2005). The second part of the study included 207 participants and utilized a questionnaire that was formulated according to defined process domains from the first part of the study (Lizzio & Wilson, 2005). The authors did identify seven domains of process issues from the first study: (a) process learning, (b) environmental fit, (c) task focus, (d) staff support, (e) managing differences, (f) collaboration and cooperation, and (g) equity and responsibility (Lizzio & Wilson, 2005). Personal responsibility, collaborative climate, staff support, and environmental fit were recognized through factor analysis of responses in the second study as being linked to productivity and satisfaction in study group (Lizzio & Wilson, 2005).

Use of study groups was explored to determine whether there was any relationship to academic performance over the course of a semester in an undergraduate college biology course (Rybczynski & Schussler, 2011). Participants included 700 students and the evaluation instruments used included survey-based questionnaires and pre- and posttests containing content questions. Results showed no significant differences in exam grade between those using study groups and those students that did not participate in study groups (Rybczynski & Schussler, 2011). Several preconceptions were revealed in theme analysis, however, and the authors concluded that guidance is

needed for self-directed study groups to be truly successful (Rybczynski & Schussler, 2011).

Students in a biology course were offered a virtual, online study room in order to participate in small study groups (Sokolove et al., 2003). The study's aims were to discover whether students would use the online group study room and to ascertain how the students rated the online study group format when compared with face-to-face study groups (Sokolove et al., 2003). Ninety of the students completed the end surveys. The results revealed that 47 students used the online study room to prepare for the final exam with other class members (Sokolove et al., 2003). Only 13 out of the 28 students that studied both face-to-face and in the online study room rated the online experience as equal or better to the face-to-face study group experience (Sokolove et al., 2003).

Medical students completed surveys in their second year with the primary goal of describing features of the study groups (Hendry, Hyde, & Davy, 2005). The sample population included 233 medical students. Study group membership was compared to student scores (Hendry et al., 2005). The study results showed that the length of time a group remained intact was positively linked to success with the summative assessment. However, there were no significant differences in summative assessment scores between students that participated in study groups and those that did not participate in study groups (Hendry et al., 2005).

Cooperative learning methodology is acquiring recognition in institutions of higher learning. Independently-formed and self-directed student study groups are often utilized in an effort to increase content understanding and academic performance (Baumberger-Henry, 2005). Research conducted does support some benefits gained by

participating in study groups outside the classroom, and reveals that student perception is an important factor in study group participation (Rybczynski & Schussler, 2011). Literature review indicates researchers of educational and psychological vocations have populated the majority of studies. Limited research of the nursing student population prompted the need for nursing education research of study groups outside the classroom.

CHAPTER III

Methodology

This study's purpose was to describe the use of self-formed and self-directed study groups outside the classroom and to identify any relationship between study group participation and student academic performance. Additionally, this study's intent was to identify common subjects among student responses that described why study groups were or were not used and included any preconceived ideas regarding study groups.

Implementation

The exploration of study groups in the nursing student population followed a survey design of a descriptive nature. Limited research knowledge in a particular area requires a structure for support and descriptive research affords a reasonable research plan (Burns & Grove, 2009). The study utilized a correlational descriptive research design as neither treatment or intervention occurs, and the primary focus of the study was to determine if any relationship exists between the variables of student academic performance and use of the study groups outside the classroom environment (Burns & Grove, 2009).

Setting and Sample

The study's setting was the campus of a private, Christian university. The sampling method involved asking participants at the school if they would like to be involved in the study as they were already attending classes at the university. Burns and Grove (2009) refer to this convenience sampling as having the appropriate sample population readily available. The sample population included 45 second year, second semester Associates Degree of Science in Nursing (ADN) students enrolled in the school

of nursing. All participants were between the ages of 20 and 43 years and included both males and females.

Protection of Human Subjects

The researcher obtained permission to conduct the study from the affiliating Institutional Review Board (IRB). Participants retained the right to withdraw from the study at any time and without coercion. There was no anticipation of any risk to the subject due to participation in this study, no deception was involved, and no incentives were used. The participant cover letter requested that names or markings of any kind were not made on the surveys to omit links between surveys and subject names or identifying markers. Results of the study will be shared will all subjects and nursing faculty. Participants were informed the results of the data collected from this study may be used in nursing presentations and submitted for publications.

Design

The researcher distributed and explained the cover letter, consent form, and survey to all participants. Participants were given time to read the cover letter; which explained the purpose of the study, how results would be disseminated and with whom, and that study participation was entirely voluntary and anonymous (Appendix A). Permission to participate and enrollment in the study was signified by returning the signed informed consent form and the survey to the researcher (Appendix B). The survey was administered mid-semester in a pencil-and-paper format following a didactic nursing class, with a faculty member present. Participants were given 30 minutes to complete the survey in a single setting. After completing the survey, participants submitted their signed informed consent and survey to the researcher.

Instrument

The survey instrument utilized in this study, Rybczynski/Schussler Student Survey, was previously published and acquired from the public domain (Rybczynski & Schussler, 2011) Permission to utilize the survey from Cell Biology Education-Life Sciences Education (CBE-LSE) was obtained (Appendix C). The survey requested information describing the use and perceptions of study groups. Internal reliability for this evaluation tool is acquired through the overlap of similar questions found on both surveys 1 and 2. Formative validity is accomplished by the evaluation tool's assessment of the participant's past experience with study groups, thus providing meaningful information that affects the measurability of consequential survey answers. This survey instrument was designed to take no more than 20 minutes to complete and included 16 questions in a combined survey 1 and 2 format in addition to demographic information. Refer to Appendix D for the utilized survey instrument.

Data Collection and Analysis

All qualitative and quantitative data were obtained through multiple-response (forced-choice), Likert scale (1-4 or 1-5), and open-ended questions. The researcher collected all data during the mid-spring semester. Study group usage was the only variable used in the model when comparing grades. Independent samples *t* test was utilized to compare scores (4.0 scale) on exams 1 and 2 for those students that participated in an independently-formed study group outside the classroom and those students that did not participate in a study group. Multiple-choice questions for study group participation rates, beneficial rating of study groups, and desire to receive specific instruction for study group usage were reported as percentage results. Using grounded

theory analysis, open-ended question responses were analyzed for common themes and response frequencies were reported as percentage results (Corbin & Strauss, 1990).

Summary

University students enrolled in a nursing program were asked to complete surveys that requested information about the student's use of study groups outside the classroom setting. The survey instrument used in this study, Rybczynski/Schussler Student Survey, was administered in one sitting and followed a pencil-and-paper format. Quantitative data was collected and analyzed, comparing reported exam scores of students that did and did not participate in study groups. Qualitative data consisting of reported views about study groups were analyzed and grouped based on theme commonalities.

CHAPTER IV

Results

This study entitled, "A descriptive study of second year ADN students on the use of study groups outside the classroom" sought to investigate the use of student-formed, self-directed out-of-class study groups and explore the relationship between student academic performance and study group participation.

Sample Characteristics

Participants of this study included second year, second semester ADN students at a private, Christian university with an enrollment of over 4000 students. The participants of this study were between the ages of 20 and 43 years of age with a mean age of 25.70 years (SD= 6.39). Forty-five participants were given consent forms and surveys and all consents and surveys were returned for 100% participation. The majority of participants were female (95.6%) with only 4.4% male student participation. Most students were Caucasian (88.9%), followed by 6.7% African-American, 2.2% Hispanic, and 2.2% Asian. The majority of students were single (70.5%), followed by married participants (25%) and divorced students (4.5%). Demographic information including gender, race, marital status, and age are included in Table 1.

Table 1

Demographics

		Frequency	Valid Percent
Gender	Male	2	4.4
	Female	43	95.6
Race/Ethnic	African American	3	6.7
	Hispanic	1	2.2
	White/Caucasian	40	88.9
	Asian	1	2.2
Marital Status	Single	31	70.5
	Married	11	24.4
	Divorced	2	4.4

Major Findings

The collected data from the survey evaluation tool was analyzed using descriptive statistics, means comparison, and, for qualitative results, grounded theory analysis. Within the study population, 53.3% reported that they had participated in an out-of-classroom study group for at least one of the two exams referred to on the survey (Figure 2).

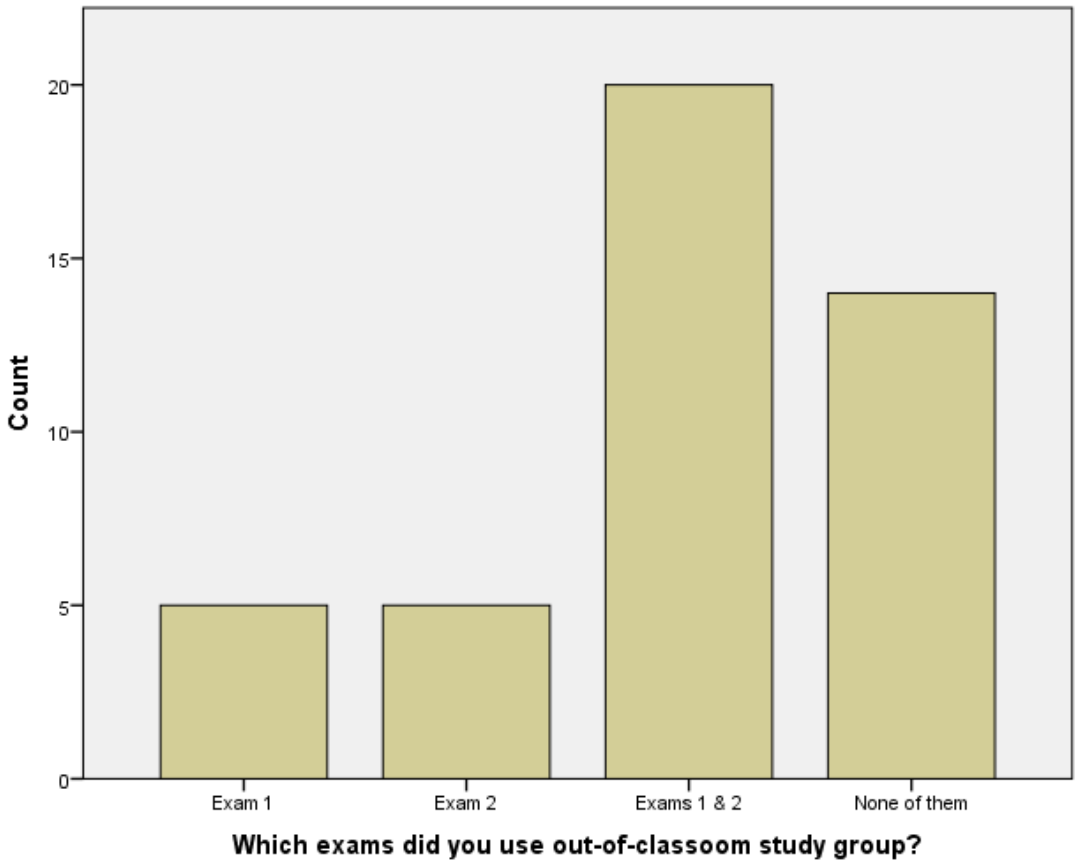

Figure 2. Participation in Study Groups for Exams 1 and 2.

The mean score for exam 1 was 2.0 on a 4.0 scale for those students that did participate in study groups outside the classroom. Those students that did not use study groups scored a mean of 2.28 on a 4.0 scale for exam 1. The difference in mean score for exam 1 was not significant using Independent samples *t* test (p=0.234). For exam 2, those that used study groups scored a mean of 2.38 on a 4.0 scale for exam 2, while the exam 2 mean was 2.67 on a 4.0 scale for those that did not use a study group to prepare for the exam. Mean scores for exam 2 were not significantly different between the group that used a study group and the group that did not (p = .284) (Table 2).

Table 2

Exams 1 and 2 mean scores

	Did you participate in a study group for exam ?	N	Mean grade (4.0 scale)	Std. Deviation
Grade for exam 1	No	18	2.28	.752
	Yes	26	2.00	.748
Grade for exam 2	No	18	2.67	.840
	Yes	24	2.38	.875

Participants that responded (70.5%) did indicate that they would like detailed, specific instructions on using study groups productively and a one-sample analysis test indicated this result to be significant ($p = 0.00$) (Figure 3).

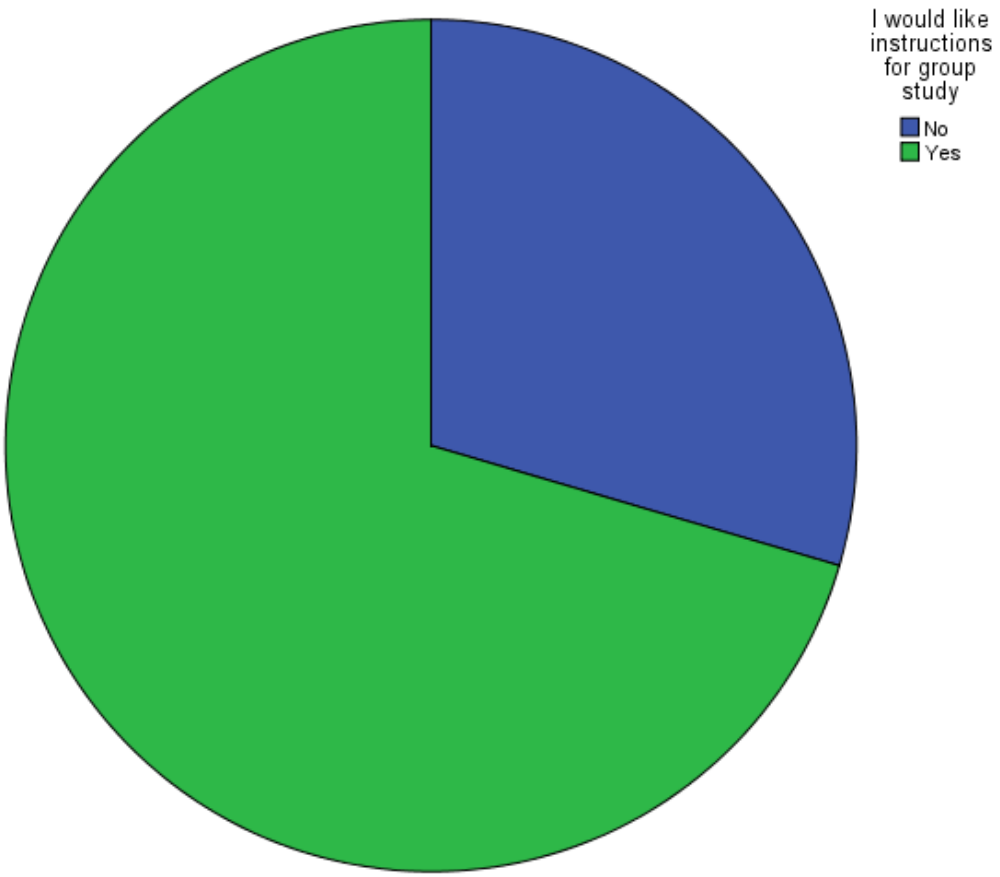

Figure 3. "I would appreciate specific instructions on how to run a productive study group."

Written comments to the three open-ended questions on the survey were given by 64.4% of participants. When asked to give reasons why study groups were joined, positive responses were arranged into themes summarized in Figure 4.

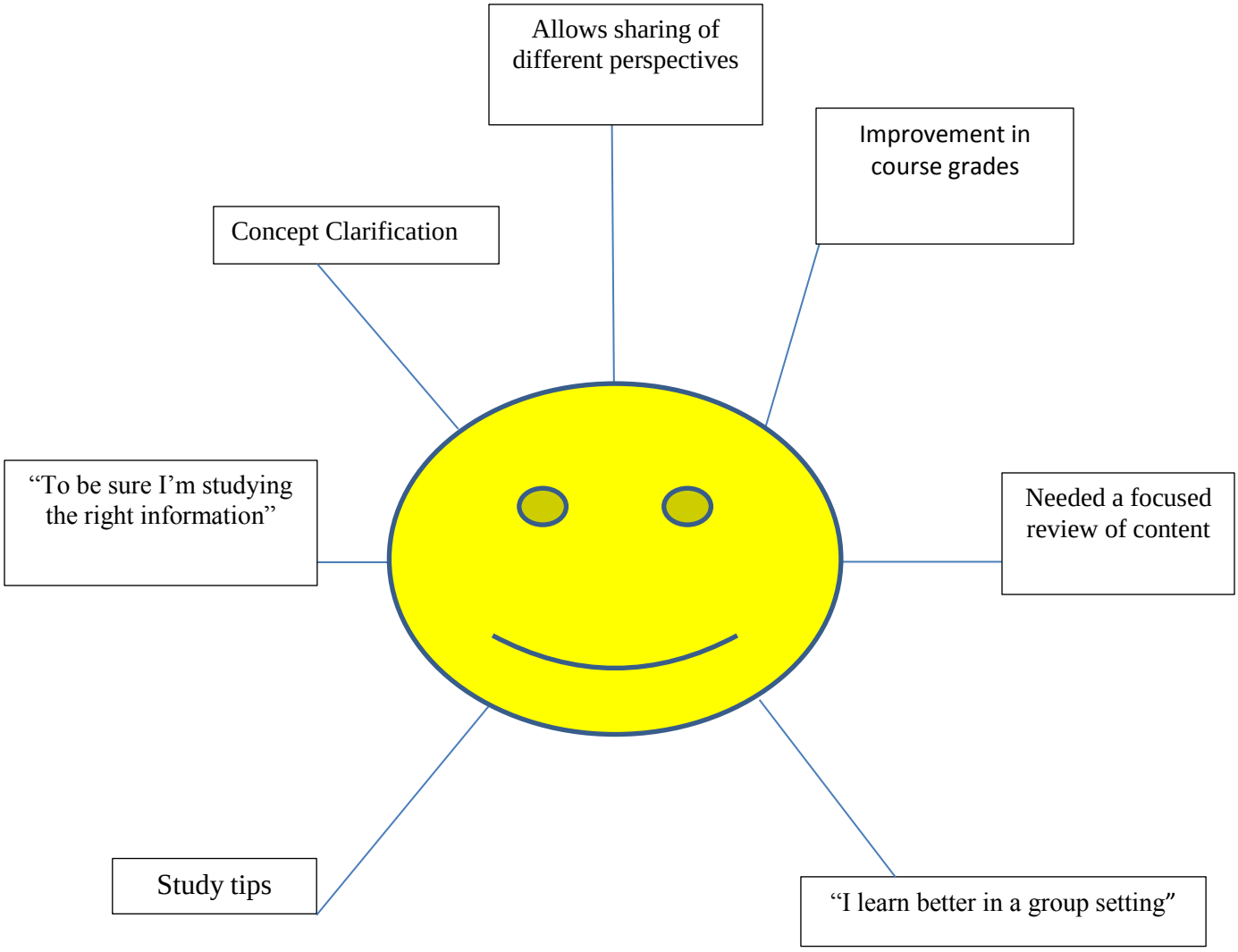

Figure 4. Positive Themes in Response to "Why did you join a study group?"

Of these positive themes, the highest frequency occurred with the following themes: (a) allows sharing of different perspectives, (b) improvement in course grades, and (c) concept clarification. Fifty-two percent of those responding to the question regarding reasons why they didn't choose to join a study group cited that the study groups tended to get off topic and included too much talking and socializing. The response indicating the student does "better on my own" was indicated by 36% of those responding and was the second highest frequency response for this survey question. All negative comments to this question were organized and arranged by themes (Figure 5).

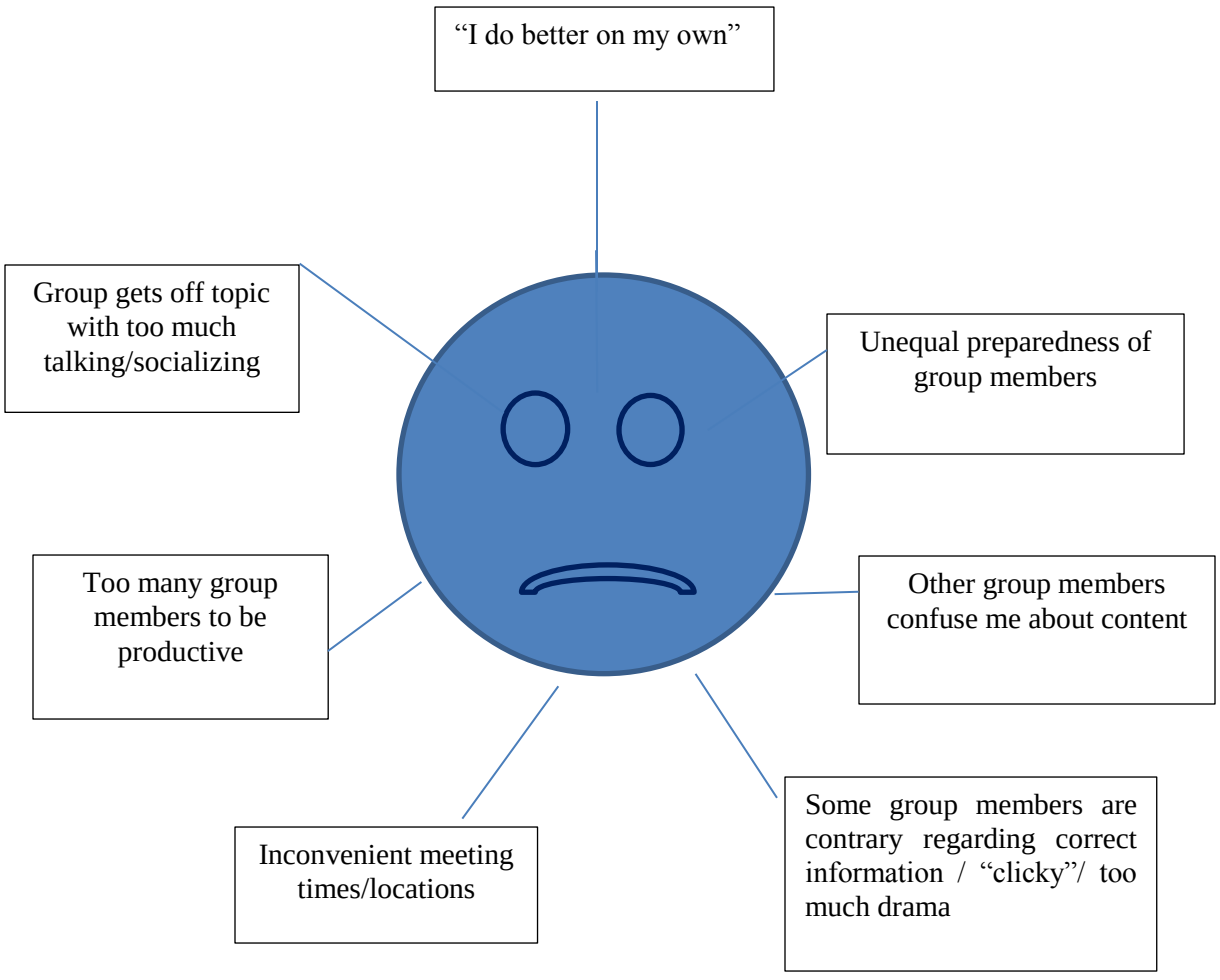

Figure 5. Negative Themes in Response to "What are the reasons why you didn't study with a group?"

Activities during study groups included discussing or clarifying notes with group members for 97.1% of respondents. Participants answered the question about preferring to study for exams independently as "almost always" (22.2%) and "sometimes" (44.4%) at highest frequency. Participants responded "sometimes" (31.1%), "almost always" (31.1%), and "always" (31.1%) when asked about the likelihood of joining a study group known to be productive. The highest frequency for the number of group members reported was 2-3 members (42.2%). The greatest challenge concerning study groups was the different levels of preparedness among group members, cited by 68.9% of respondents. Slightly over half of the participants (56.4%) reported that they believed group study was helpful.

Summary

Mean exam scores differed slightly between those that participated in an out-of-classroom study group and those that did not. Many students did indicate a strong desire to receive specific instructions on how proceed with study groups in a productive manner. Additionally, definite positive and negative themes regarding student perspectives on study group usage were revealed.

CHAPTER V

Discussion

This study aimed to investigate the use of student-formed, self-directed study groups outside the classroom environment and to explore the relationship between student academic performance and study group participation. The study also explored preconceptions of nursing students regarding the benefits of study groups and organized these participant responses into themes.

Implication of Findings

Use of study groups in this nursing student population was fairly high, with 53.3% reporting the use of a study group for at least one exam and the majority of respondents (56.4%) expressed the belief that study groups are beneficial. Perhaps the most important information resulting from this study was the expressed wish that participants had to receive direction and guidance in using study groups, even among those students that reported not using study groups. The findings indicate that study groups were being used routinely for exam preparation in this study population and that students perceived these study groups to provide benefits to their academic experience.

Mean exam scores were slightly higher for those that did not use study groups when compared to those that did use study groups for both exams 1 and 2, but the statistical findings revealed no relationship between academic performance on exam 1 or exam 2 and using student-directed study groups. Comparable results were reported in 2011 in a study using a general biology student population and the Rybczynski/Schussler Student Survey (Rybczynski and Schussler).

Identified common positive and negative themes offered insight into perceptions surrounding student study groups. This was further substantiated by the most frequently reported positive comments that study groups help as a media for sharing of different perspectives (17.2%), clarification of concepts (13.8%), and to improve one's grades (17.2%). Negative comments and reported challenges regarding study groups showed that often there was a lack of discipline and direction within the groups that is not conducive to effective learning, with 52% of respondents stating getting off topic and socializing are problems with study groups. The data indicated opportunities to improve the process by which students form and use student-directed study groups.

Application to Theoretical Framework

Kelly (1955) proposed in his Personal Construct Psychology theory that an individual's processes are psychologically channeled by the way he/she anticipates events. Some students in this study indicated that they had not participated in study groups for exams 1 and 2; however, they had participated in study groups previously. These experiences may have swayed the students to not join a study group, having formed a preconception of what the study group would be like and likely yield as a result. Forrest and Miller (2003) showed that preconceptions about past experiences do affect current perceptions and create preconceptions. In other words, the negative experiences stuck with the students longer and had a more profound effect on their perceptions in anticipating future experiences. This was perhaps due to a protective mechanism of survival from long ago. For those students that indicated a positive attitude towards study groups, this beneficial view of study groups may be a result from past experience. This

study supported Kelly's theory of Personal Construct Psychology in that individual perceptions built upon anticipation affected the behavior of the individual.

Limitations

The study population consisted of a 95.6% female sample, which limited the perspective of male nursing students. A more equal male and female population would have been ideal in order to better represent the overall population and thus decrease the intrinsic limitations of convenience sampling. The small sample size of 45 was also a limitation as a larger sample could have better represented the general population and made it possible to explore and compare exam scores for those students that did not use a study group for exam 1 but did for exam 2. This might follow a more logical pattern that a student who was seeking helpful intervention in the form of a study group would follow; therefore, these students could have been a sample population on their own to study.

Implications for Nursing

This study was initially considered as a result of witnessing a complete lack of direction within an undergraduate study group in a university setting. Results from the study resonated with this witnessed experience. It is clear that cooperative learning methodology has merit and mimics the teamwork environment that many, if not all, of these nursing students will be working in as new graduate nurses. It is essential to foster an environment of positive and structured learning. By educators becoming the instruments of change in guiding effective study group use, students will be better prepared for both educational and career demands.

Schools also stand to gain recognition within the community and nationally for the high quality of team-oriented and well-prepared nurses. Both students and educators cannot afford to risk losing quality future nurses through a lack of effort or understanding.

Recommendations

Hendry et al. (2005) suggested the use of contracts to essentially lay down a foundation of personal responsibility and responsibility to the group and its mission. Future studies need to explore the use of such contracts along with instructor-led study group direction, and compare groups that did and did not have contracts and/or instructor guidance. Other future research should involve role definitions for students within a study group in order to encourage structure and decorum, something that was resoundingly reported to be lacking in current study groups. Further studies utilizing Kelly's repertory grid technique regarding the study group experience within a nursing student population may reveal useful information.

Conclusion

There was no quantifiable advantage in terms of exam scores to utilizing study groups outside the classroom in this nursing student population. Many nursing students are, however, using study groups to prepare for exams and report a desire to receive clear directions on how to set up and effectively use study groups. Several students did report feeling that study groups are helpful to their academic success. Preconceptions regarding study groups did have an impact on whether study groups were used. Praising the use of student-led study groups is not sufficient to achieve a calculable positive result for

examination scoring. Educator-led, specific instructions may be instrumental to successful study groups that yield a more measurable result.

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Appendix A

Participant Cover Letter

I am a graduate student in the Master of Science in Nursing Program at Gardner-Webb University, Boiling Springs, North Carolina. I am investigating the use of study groups outside the classroom environment. You are being asked to participate in this study. This study will provide information concerning the use of student-formed study groups.

You are invited to complete a demographic data form and short anonymous surveys. Participation in this study will take approximately twenty minutes. Your participation in this study is completely voluntary and your responses are anonymous. Please do not write your name on the surveys. Your decision concerning participation in this study will not affect your school status, grades, or graduation. There is no anticipation of any risk to you for your participation in this study. Study results will be shared with all participating subjects and nursing faculty. Data collected from this study may be used in nursing presentations and publications. No individual data will be identified if this study's results are published or presented.

If you agree to participate in the study, please sign the attached participant informed consent sheet. You are free to ask any questions about this study or your participation in the study. Please direct questions to:

Francine Sheppard, RN, BS at 704-466-1250, fsheppar@gardner-webb.edu or to:

Dr. Candice Rome, DNP, RN at 704-406-4365, crome@gardner-webb.edu

Appendix B

Participant Informed Consent

I have read and understand the Participant Cover Letter. I agree to participate in this research study regarding the use of study groups outside the classroom environment.

_____ _____

Signature Date

Appendix C

Permission to Use Measurement Instrument

Terms & Conditions for use of *CBE-LSE*

Proprietary Rights Notice for *CBE–LSE*

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Appendix D

Demographics

Research study: A descriptive study of second year ADN students on the use of study groups outside the classroom.

The following information will contribute to the evaluation of the research study concerning the use of study groups outside the classroom in an ADN student population. All information obtained from this questionnaire will be held in strictest confidence.
Thank you for taking the time to complete this questionnaire.

Directions: Please indicate the best answer to each question by placing a check in the box that best applies or by completing the blank.

1. What is your gender?

☐ Male

☐ Female

2. What is your age? _____ years

3. Which of the following best describes your racial or ethnic background?

☐ Asian

☐ Black/African American

☐ White/Caucasian

☐ Hispanic

☐ Native American

☐ Other

4. What is your marital status?

☐ Single

☐ Married

☐ Divorced

☐ Widowed

Survey 1*

1. Have you ever voluntarily formed or joined an out-of-class study group for a class?

   ☐ Yes

   ☐ No

2. "I usually prefer to study for exams on my own."

   ☐ Never

   ☐ Almost never

   ☐ Sometimes

   ☐ Almost always

   ☐ Always

3. "If I knew that a particular group of students was productive studying together, I would be willing to participate in that study group."

   ☐ Never

   ☐ Almost never

   ☐ Sometimes

   ☐ Almost always

   ☐ Always

4. "Do you have any thoughts regarding study groups that you would be willing to share?"

   _____

Survey 2*

1. Did you study for the first exam in a small group at any time?

   ☐ Yes

   ☐ No

2. What grade did you receive on the first exam?

   ☐ A

   ☐ B

   ☐ C

   ☐ D

   ☐ F

3. How many people were typically in your study group for the first exam?

   ☐ no study group

   ☐ 2-3

   ☐ 4-5

   ☐ 6 or more

4. Which of the following activities did your study group participate in?

   Please select all that apply:

   ☐ Discussed or clarified notes with group members

   ☐ Worked on problems or questions generated by the instructor

   ☐ Discussed concepts or topics not specifically in the notes

   ☐ Worked on problems or questions generated by group members

   ☐ Copied notes missed from other group members

5. Do you feel studying in a group helped your grade on this last exam?

   ☐ Yes

   ☐ No

6. "I would appreciate specific instructions on how to run a productive study group."

   ☐ Yes

   ☐ No

7. What prompted you to form/join a study group to prepare for the last exam?

   _____

   _____

   _____

8. Is there any particular reason you decided not to study with a group that you would be willing to share?

   _____

   _____

   _____

9. For which of the exams did you study with others in a small group of 2 or more people? Please select all that apply:

   ☐ Exam 1

   ☐ Exam 2

   ☐ Exams 1 and 2

   ☐ None of the exams

10. What grade did you receive on the second (most recent) exam?

    ☐ A

    ☐ B

    ☐ C

☐ D

☐ F

11. Which of the following statements BEST describes your current attitude toward studying

with others for exams?

☐ "Studying in a group helps my grades".

☐ "Participation in a study group runs the risk of spending my time less productively than I might spend it studying on my own".

12. What was (or were) the most challenging aspect(s) of participating in an out-of-class

study group? Select all that apply:

☐ Deciding what to study and how to best go about it

☐ Different levels of preparedness among group members

☐ Finding time to meet with people

☐ Meeting people with whom I can work well

☐ Finding a place to meet with my group

*Surveys utilized with permission under the terms and conditions for use of CBE-LSE

from original work by:

Stephen M. Rybczynski,S. & Schussler, E. (2011). Student use of out-of-class study groups in an introductory undergraduate biology course. *CBE Life Sciences Education*. *10* (1), 74-82.