

Student Work

Spring 1-1-1990

The Relationship Between Traditional and Nontraditional Freshman Students' Performance

David J. Carter

University of Nebraska at Omaha

Follow this and additional works at: <https://digitalcommons.unomaha.edu/studentwork>

Recommended Citation

Carter, David J., "The Relationship Between Traditional and Nontraditional Freshman Students' Performance" (1990). *Student Work*. 2383.

<https://digitalcommons.unomaha.edu/studentwork/2383>

This Thesis is brought to you for free and open access by DigitalCommons@UNO. It has been accepted for inclusion in Student Work by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.



The Relationship Between Traditional and
Nontraditional Freshman Students' Performance

Presented to the
Graduate Faculty
University of Nebraska
at Omaha

In Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

University of Nebraska at Omaha

by

David J. Carter

Spring 1990

UMI Number: EP73928

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP73928

Published by ProQuest LLC (2015). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

FIELD PROJECT ACCEPTANCE

Accepted for the Graduate Faculty, University of
Nebraska, in partial fulfillment of the requirements
for the degree Specialist in Education, University of
Nebraska at Omaha.

Supervisory Committee

Name

Department

Robert Butler

Jan. 24, 1990

Anna Olwe

Jan 24, 1990

Blaine E Ward
Chairman

Jan 24, 1990
Date

Table of Contents

	Page
List of Tables.....	iv
List of Figures.....	v
Chapter	
1. Introduction.....	1
Statement of the Problem.....	3
Hypothesis.....	4
Methodology to be Employed.....	6
Definition of Terms.....	8
Limitations.....	9
2. Review of Related Research.....	10
Comprehension and Prior Knowledge.....	12
Student Readiness.....	19
Conclusion.....	25
3. Design of the Study.....	27
Subjects.....	27
Study Description.....	28
Data Instrument.....	29
Data Processing, Categorization, and Analysis.....	29

4. Presentation and Analysis of Data.....	31
5. Summary, Conclusion, and Recommendations.....	37
Restatement of the Problem.....	37
Discription of the Procedures Used.....	37
Principal Findings and Conclusions.....	38
Recommendations.....	39
College Implications.....	41
Bibliography.....	42
Appendix A.....	46
Appendix B.....	50
Appendix C.....	55

Tables

Table	Page
1. Student Population.....	28
2. Comparison of the Pretest Mean T-scores and Standard Deviation between the Traditional and Nontraditional Groups.....	32
3. Comparison of the Posttest Mean T-scores and Standard Deviation between the Traditional and Nontraditional Groups.....	33
4. Comparison of the Gain Score Mean and Standard Deviation between the Traditional and Non-traditional Groups.....	34

Figure

Figure	Page
1. Comparison of the Mean Scores of Traditional and Nontraditional Groups.....	35

CHAPTER ONE

Introduction

As a population we know more today than ever before, with everyone having a wealth of knowledge and skills to offer others (Draves, 1984). This especially holds true for students entering college. Students in post secondary education bring with them different types of knowledge.

The first type of knowledge students bring to the classroom includes stored information containing learning principles and even games that students use in order that learning can take place. The second type of knowledge deals with learning specific content information, and the third type of knowledge involves information the student has acquired in dealing with the learning assignment at hand (Johnson, 1983).

This knowledge can be developed and mastered in many different ways. For the traditional student entering college directly out of high school, prior knowledge is acquired through instruction within the secondary school system. For the nontraditional student, secondary education knowledge is enhanced by his or her work and lifestyle experiences.

Methodist College of Nursing and Allied Health is a multipurpose academic institution with an equal

distribution of both traditional and nontraditional students seeking baccalaureate degrees in Nursing. Many adult learners entering Methodist College report having the academic skills necessary to waive entry level classes in their course of study. Draves (1984) reports adult learners view their time as being more precious than traditional students, and they prefer to learn what is clearly relevant for present or near future use.

Knowles (1970) supports this view by differentiating nontraditional student learning characteristics from traditional student learning. He states that adult learners move from a dependent to a self-directed personality, have accumulated a wealth of experience which becomes a ready resource for learning and have developed a readiness to learn based on the developmental tasks of their social roles.

The staff at Methodist College have an obligation to take students from where they are when they enter college to where they want to go in meeting their maximum potential. While both groups receive the same experience while in class, is the maximum potential for learning enhanced or inhibited due to the group's diversity, and how does this affect the course's

curriculum design? To seek knowledge concerning these questions the Methodist College staff has formulated the following questions to be asked: (1) Do nontraditional students gain more from college courses? (2) When students have different starting points entering college, do they have consistent gains in their academic achievement? (3) Is there a difference between the entry level and exit level of traditional and nontraditional students? and (4) What is the importance of student comprehension and knowledge and its implication for curriculum design and instructional strategies at Methodist College? While some of these questions await further research, this thesis will shed light on what is currently known about student readiness as it relates to prior knowledge.

Statement of the Problem

The purpose of this study is to determine if there is a significant difference between the pretest achievement and the posttest achievement of traditional and nontraditional nursing students enrolled at the Methodist College of Nursing and Allied Health, Omaha, Nebraska, during the 1989 Fall Semester.

Subproblem one: Is there a significant difference in the pretest scores of traditional and nontraditional students enrolled at Methodist College during the 1989

Fall Semester?

Subproblem two: Is there a significant difference in the exit achievement level of traditional and nontraditional students enrolled at Methodist College during the 1989 Fall Semester?

Subproblem three: Is there significant academic growth with traditional students enrolled at Methodist College during the 1989 Fall Semester?

Subproblem four: Is there significant academic growth with nontraditional students enrolled at Methodist College during the 1989 Fall Semester?

Subproblem five: Is there a significant difference in gain scores of traditional and nontraditional students enrolled at Methodist College during the 1989 Fall Semester?

Hypothesis

There is no significant difference between the achievement of traditional and nontraditional nursing students enrolled in Human Relations I and Introduction to the Health Science at the Methodist College of Nursing and Allied Health, Omaha, Nebraska during the 1989 Fall Semester.

Subhypothesis one: There is no significant difference in the pretest scores of traditional and

nontraditional students enrolled in Human Relations I and Introduction to the Health Science at Methodist College during the 1989 Fall Semester.

Subhypothesis_two: There is no significant difference between the exit achievement level of traditional and nontraditional students enrolled in Human Relations I and Introduction to the Health Science at Methodist College during the 1989 Fall Semester.

Subhypothesis_three: There is no significant academic growth of traditional students enrolled in Human Relations I and Introduction to the Health Science at Methodist College during the 1989 Fall Semester.

Subhypothesis_four: There is no significant academic growth of nontraditional students enrolled in Human Relations I and Introduction to the Health Science at Methodist College during the 1989 Fall Semester.

Subhypothesis_five: There is no significant difference between the academic growth of traditional and nontraditional students enrolled in Human Relations I and Introduction to the Health Science at Methodist College during the 1989 Fall Semester.

Methodology to be Employed

The subjects in this study consisted of 102 first year baccalaureate nursing students enrolled in Health Science Interdisciplinary (HSI) 120, Human Relations I and Health Science Interdisciplinary (HSI) 122, Introduction to the Health Science, at the Methodist College of Nursing and Allied Health, Omaha, Nebraska, during the 1989 Fall semester. Each course consisted of three sections. In general, the students undergoing testing were planning to enter nursing upon graduation. All nursing students are required to complete HSI 120 and HSI 122 in their freshman year. The students selected the particular course section based on time availability and, perhaps, the reputation of the instructor. Each student was placed in a particular section by the college registrar on a first-come, first-served basis.

To test subhypothesis one, there is no significant difference in the readiness of traditional and nontraditional students, the respective groups were pretested on the initial examination and the mean scores were tested for significant differences in the mean.

To test subhypothesis two, there is no significant difference in the exit achievement level of traditional

and nontraditional students, the groups were posttested on the exit examination and the mean scores were tested for significant differences in the mean.

To test subhypothesis three, there is no significant academic growth of traditional students, the groups pre and posttest scores were averaged and the mean gain score were tested for significant differences in the mean.

To test subhypothesis four, there is no significant academic growth of nontraditional students, the groups pre and posttest scores were averaged and the mean gain score were tested for significant differences in the mean.

To test subhypothesis five, there is no significant difference in the gain scores of traditional and nontraditional students, the respective groups pre and posttest scores were averaged and the mean gain scores were tested for significant differences in the mean.

The designed course pretest and posttest were administered to students in three sections of HSI 120 and three sections of HSI 122 on the first and last day of class. At the end of the actual pretest, in the space designated at the end of the answer sheet, each

student entered the following personal data: name, sex, education standing, age, occupation, and marital status. Formal testing required 20 - 25 minutes for each test. Questions used in the pre and posttest were based on questions previously validated by similiar students enrolled in HSI 120 and HSI 122, to measure students knowledge and comprehension base.

Definition of Terms

1. Achievement: The quality and quantity of a students work.
2. Comprehension: The student's process of using instruction and the students prior knowledge to infer the instructor's intended meaning.
3. Content knowledge: Storing information concerning specific subjects and the world in general.
4. Metacognitive knowledge: Information possessed concerning the state of one's own knowledge base and the demands the task will require.
5. Nontraditional student: Any student who holds a high school diploma or GED and had reached the age of twenty three or above.
6. Prior knowledge: The student's ability to store, retrieve, and utilize previous information to construct meaning from new information. Other terms for prior knowledge are prior learning, strategic knowledge,

knowledge of the world content or factual knowledge, and metacognitive knowledge.

7. Strategic knowledge: Information stored containing rules, procedures, and routines to facilitate learning.

8. Traditional student: Any student who holds a high school diploma or GED and under the age of twenty three.

Limitations

Students participating in this study attended Health Science classes at the freshman level at Methodist College, a private nursing college which is in Omaha, Nebraska. This study was not concerned with specific curriculum development, test development or classroom instructors. Sex ratio of students was not controlled for. Results should be generalized only to a similiar population.

CHAPTER TWO

Review of Related Research

Although we know more today as a population there are fewer channels for communicating that knowledge. In the past we have created and discriminated knowledge through family systems, churches, civic groups, and other cultural organizations. Today participation in these settings is declining (Cross, 1981). Because of this decline, the opportunity to enter college and share one's knowledge in a class setting becomes an inviting and valuable one.

Despite the recruitment efforts undertaken by many colleges, the number of students entering colleges, especially nursing programs, has declined (American Association of Colleges of Nursing, 1987). Because of the limited number of nursing students entering colleges, it is important that nursing schools recruit and retain qualified students and when necessary assist those students at risk to achieve success in the nursing profession. Because we often judge a student's success or failure by his/her ability to demonstrate mastery over general knowledge and skills in their area of specialty, significant research in undergraduate student readiness has been directed toward developing

predictive criteria that identify the significant differences between students who succeed and students who fail (McKinney, Small, O'Dell and Coonrod, 1988).

Because the prior knowledge students bring to class may influence their success or failure, educators are beginning to look at the student's level of knowledge and perception concerning the subject to be discussed in class. Some will have a level of competency in the subject, others will have a superficial acquaintance. Some will have adverse feelings about the content, others will have previous thoughts about the class gained from misconception (Bischof, 1969). Students bring an abundance of past experiences, skills, concepts and knowledge to each class. To disregard these experiences and perceptions is to miss out on something valuable. The 1984 Congressional Report, A Nation At Risk states, " A high level of shared education is essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom" (p. S6060).

The major emphasis of this review is found in the areas of prior knowledge and students readiness. The first area includes a summary of the literature describing comprehension and prior knowledge. The

second summarizes research predicting preparation differences between traditional and nontraditional college students.

Comprehension_and_Prior_Knowledge

What the students bring to the class, in order to get meaning, is their prior knowledge. The data and facts the students bring to the class are essential in the learning process because one cannot learn anything unless it can be connected to something which is already known (Johnson and Barret 1981).

Prior knowledge can be classified into three categories. The first type of knowledge is strategic. This is stored information containing standards, policies and routines to promote learning. The second type of knowledge is factual. This is information the student has about particular topics and the world in general. The final type of knowledge is metacognitive, which includes information the student has acquired concerning the state of one's own knowledge base and the demands the task will require (Johnson, 1983).

Research in the area of strategic knowledge has been done on story grammar and inference making. Stein and Baker (1981) refer to several studies which measured children's knowledge of story grammar. The

children in the study were told a story for which they had to provide an ending. The conclusion of the study, based on the quality of the story ending, was that as children develop and grow older, their knowledge of a well formed story structure increased.

The knowledge of story grammar appears to affect comprehension. Fitzgerald and Spiegel (1983) investigated whether instruction in narrative structure would enhance comprehension. Twenty average and below-average fourth grade readers who lacked a keen sense of narrative structure were selected. The experimental group was given special instruction to develop the children's knowledge of story structure. The control group was given instruction in dictionary usage and word study. The instruction was given in two phases. The first phase entailed short-term intensive instruction. The second phase involved long term intermittent instruction. The results indicated the instruction in narrative structure did, indeed, increase the comprehension of the experimental group.

Making an inference could be defined as the capacity or skill to consider new information in light of what one already possesses (Stein and Baker, 1981). Therefore, making inferences is a prominent part of comprehension. Trabasso (1980) speculates that in order

for students to make inferences they must be cognizant of background knowledge, knowledge of text structure, knowledge about social interchange, and knowledge of casual involvement between events.

Anderson, Reynolds, Schallert, and Goetz (1977) demonstrated how prior knowledge can be used to draw inferences. Thirty female college music majors and thirty male college physical education majors participated in this study. The students were given two passages which had two possible interpretations. The outcome of the study reported that students' knowledge, beliefs and personal history influenced the interpretations they gave to particular passages.

An unexpected result was discovered by Chabe (1982) when he tested 97 undergraduate teacher education students. The students were evaluated on their previous knowledge of four education foundation areas. The results of the experiment showed that undergraduate teacher education students enrolled in a first course in educational foundations demonstrated limited understandings and knowledge of the field of professional education.

The second type of knowledge, content or factual, is often referred to as universal knowledge. A study

showing the dissimilarity between general knowledge and specific content knowledge was performed in a community college in Virginia (Hirsch, 1984). Students of this college possessed minimal knowledge concerning Ulysses S. Grant or Robert E. Lee. Yet on a passage about friendship their achievement was equal to highly educated readers.

Stevens (1982) supervised a study of ninth graders in which each student's high and low subject areas were identified. They were then provided paragraphs equivalent to each of these subjects. The results demonstrated that comprehension was significantly enhanced by high prior knowledge.

Lipson (1983) explored the impact of culturally specific prior knowledge on the reading comprehension of young subjects whose religious association was either strongly Catholic or Jewish. The 32 subjects were each given a packet which included three passages of equal length. The first passage was impartial, the second discussed First Communion, and the third referred to Bar Mitzvah. The results showed that each group took less time to read the culturally specific passages and were more successful when responding to recall questions concerning the culturally familiar passage. These findings signify that the subjects were

more likely to comprehend information when they had a culturally appropriate frame of reference into which to integrate the new information.

Another study showing the importance of background knowledge was done by the Educational Products Information Exchange Institute (1979). In this study students in fourth and tenth grade were tested in the areas of General Science, Mathematics, Social Science, and Life Science to determine what percentage of students could correctly answer objective test items without ever having been exposed to the text. The results of the study revealed that a majority of the students were able to master 80 percent of the material in some of their subject-matter texts before they had even opened the books.

Montgomery and Palmer (1976) conducted a study with 259 nursing students and found that the number of previously earned college credits is one of the best indicators of academic success in beginning nursing courses.

The final type of knowledge, metacognitive, refers to both the knowledge (awareness) and the control (monitoring and correction) which a learner has over thinking and learning activities. Metacognitive

knowledge takes into consideration two major components, awareness of the task at hand and the ongoing process of comprehension (Winograd & Johnston, 1980). Castleberry (1984) states the mature student can analyze the information and be aware of what they do not know and decide what can be concluded from what is known.

Quinto and Wiener (1983) conducted a study analyzing metacognitive skills used in problem solving. Their results indicated that while older readers demonstrate more insight into their own learning procedure and exercise greater individual monitoring of their own performance, they may be insufficient in other areas, such as in a lack of awareness of tasks and strategy variables.

Rigney (1978) delineated a comprehensive theory concerning cognitive strategies used by students that suggests how such strategies might interact with instruction. Keeping in mind that students can be conscious or unconscious of their use of strategies, the major objective of instruction should stimulate students to be aware of particular cognitive strategies so that they may eventually become competent enough in their use that they can unconsciously assign those strategies to themselves at the relevant time. This

process places an emphasis on making the student an independent learner who can comprehend, direct, and influence their thoughts in relation to specific tasks (Heidt, 1980).

The teaching of cognitive skills provides the additional option of assisting less prosperous students who may not possess all the prerequisite skills necessary to employ successful strategies. The teaching of cognitive strategies also offers the promise of meeting one of the crucial needs of modern education, to help ill prepared students improve their susceptibility to learn.

An ideal instrument for the identification of operative learning strategies has been prepared by Cathleen Stasz and Perry Thorndyke. Thorndyke and Stasz (1980) first used research to recognize a series of nineteen map learning strategies used by adult learners, categorizing those strategies as being successful or unsuccessful for map learning. The results implied that detailed training in the use of predefined effective cognitive learning strategies resulted in prominent gains in map recall performance, when compared to the memory ability of the students.

Reis and Spekman (1983) also outlined a number of

studies on metacognitive knowledge. Fifty-four middle school students were involved in the first study. The conclusion of the study implied that students could identify and revise reader-based discrepancies to a significantly greater degree than text-based inconsistencies. The second study included twenty-four subjects who had weak comprehension. They were separated into two groups. The first group received training in comprehension monitoring. No training was provided to the second group. The results showed that the first group scored higher on reader-based inconsistencies than the second group.

Even though research in this area needs to be increased and accurate methods of evaluating this type of knowledge needs to be developed, these studies appear to support the theory that prior knowledge does increase one's comprehension of a topic.

Student Readiness

Academic literature has brought to the fore a developmental outlook which deals principally with traditional-aged college students and their developmental success. Increasingly, however, professionals in academic institutions have come to understand that the student body on our college campuses is in a state of conversion. Baby boomers and

adult learners are filling the vacant spaces left by a declining traditional-aged student population.

The U.S. Department of Education (1987) in its first comprehensive survey of undergraduate college enrollment by age, reported that roughly 60 percent of all 1987 college students were 23 or older. This information substantiates that the traditional-age student is no longer the norm on college campuses.

Students today find themselves in college because of the increased educational expectations of society. Keeping in mind that family occupation, parental education, and academic ability of students plays a part in who goes to college, for a large majority of students the incentive for attending college lies not with the expectation of the joys of learning or scholastic curiosity but from the acknowledgement that academics is the way to a better job (Cross, 1974).

Developmentally, traditional and non-traditional students have one thing in common. They are both classes of individuals who are at a transition point in their lives. Adult learners report that a transition in their lives is the major motivator for their learning (Aslanian and Brickell, 1980).

Schlossberg (1981) identified categories of events

which have an effect on the adult learner such as whether transition stimulates role change which is a loss or gain, has negative or positive affect, or comes from an internal or external source. He also notes that the individual's ability to conform to a transition depends on his or her balance of strengths and weaknesses in the area of coping resources. Adult students returning to college also report that support is very important to their learning experience (Huston-Hoberg and Strange, 1986).

With the increase in the number of adults in America seeking higher education, faculty members are becoming more aware of the individual needs and abilities of the adult learner. Darkenwald (1982) conducted a study of behavior differences between college teachers related to adult and pre-adult student age status. The results showed that teachers not only perceived differences between adults and pre-adults, but altered their teaching behavior accordingly.

Knowles (1970) makes four assumptions concerning adults and their individual needs. First, adult students have a propensity for self-direction and individualism. Second, adults have the ability to use their prior experiences and skills to enhance their knowledge. Third, they are in the proper developmental

phase and social capacity for learning. Fourth, adults can apply any knowledge they have gained in the past to a specific problem they are faced with in the present.

Studies by some educators have substantiated Knowles' belief that adult learners exhibit specific characteristics. Greer (1980) conducted a study concerning differences between traditional and nontraditional age students academic success at a Junior College. The conclusion implied that older (age 25 and older) students differed from their younger (age 17 to 19) peers in relation to entering goals, levels of goal commitment, and expectations for college experience. The older students were more successful educationally, seemed to be more certain of their goals than the traditional age student, and had a more positive image of the college.

According to Tinto (1975), a student enters an academic institution with given background characteristics, objectives, and levels of commitment to his goals and to the institution. The degree to which the interaction between the student's characteristics and his college experiences causes him to become integrated into the academic and social system of the college determines new levels of

institutional and goal commitment and, thus, whether he persists or leaves the college.

This brings up an important point on the subject of students at risk for early withdrawal from college due to lack of readiness. On the issue of student retention, a number of strategies for helping colleges and universities reduce student attrition have been developed (Noel, 1978). The strategie most used and accepted is an early warning system to identify those students who appear most likely to drop out prematurely.

Another problem is the lack of information available to educators at the time of initial student enrollment. This situation is especially acute at public community colleges which are known for their open door policies. While this may simplify the admission process and makes it easy for students to attend college, it also hinders the collection of sufficient data needed for student retention. As a result many nontraditional students have withdrawn by the time attendance and grade rosters can be gathered. Students may leave college life due to early confusion, failure, intimidation or lack of academic assistance.

Rose (1965) describes an experimental program at a state university which looked at what would happen to

low-achieving students accepted into a college that had no retention assistance. At the end of the first semester, 81 percent of the student group were on probation or had withdrawn from the college. By the end of the second semester, only 8 percent of the students were in good standing.

Ideally, high-risk students should be identified prior to initial enrollment using pre-enrollment information. Keeping in mind that many colleges and universities have a lengthy application process and extensive testing and advisement for all beginning students, there is a need for a screening device which provides as much predictive information as possible from a minimal amount of admission and placement data.

McGuire (1986) looked at potential dropout predictors for 618 freshman students in a community college. Four variables which were found to differentiate persisters and dropouts were, age; degree objective; scores on writing placement tests; and scores on mathematics placement tests. The study used hierarchical clustering techniques for grouping together students with similar pre-enrollment characteristics to determine whether some clusters are comprised of students at risk for premature withdrawal

from college. Although the distribution of persisters and dropouts was significantly different across clusters, the hierarchical clustering patterns did not appear to have sufficient predictive validity as a screening method.

Conclusion

The fact that prior knowledge is important to college readiness is supported by research. However, the research on both student's prior knowledge and readiness to enter college leaves many questions unanswered. The details of how, when, and why prior knowledge influences college readiness is still unclear and not well documented. A more specific understanding of how background knowledge influences particular student readiness situations would assist colleges in designing curriculum for these diverse populations.

More research needs to be done on how access to prior knowledge occurs (Castleberry, 1984). In some situations first year college students may have the prior knowledge needed to be successful in class, but do not apply it. Studies being done by Langer (1984) are exploring how to help students apply learning to course comprehension.

Once it is known whether or not a student performs poorly in college because of the lack of factual prior

knowledge or because of poor processing skills one can begin to design curriculum and instructional strategies to increase student success rates. In looking at student motivation and readiness, the above factors should be taken into consideration.

CHAPTER THREE

Design of the Study

Permission to conduct this study was granted by the Methodist College of Nursing and Allied Health Research and Publication Committee and Dr. Roger Koehler, President, Methodist College of Nursing and Allied Health.

The purpose of this study was to determine if there was a significant difference between the pretest and posttest achievement of traditional and nontraditional college nursing students.

Subjects

This study was conducted with 102 baccalaureate nursing students enrolled in two first year Human Relations courses at Methodist College of Nursing and Allied Health, Omaha, Nebraska, during the 1989 Fall Semester. The students range in age from 18 years to 55 years and were placed in two groups: traditional and nontraditional. Traditional students were identified as any student who holds a high school diploma or GED and is under the age of twenty three at the time of the pretest. Nontraditional students were identified as any student who holds a high school diploma or GED and who had reached the age of twenty three or above at the

time of the pretest. The student population for this study was as follows:

Table 1.

Student Population

	Males	Females	N
Traditional	3	47	50
Nontraditional	7	45	52
N	10	92	102

Study Description

A pretest was devised for both courses, HSI 120 (Appendix A) and HSI 122 (Appendix B), to assess the prior knowledge possessed by traditional and nontraditional college students. A posttest was developed for both courses to assess the knowledge gain acquired by traditional and nontraditional college students. Test questions were developed by each course instructor based on the course content and curriculum objectives. Because HSI 120 and HSI 122 are first year courses, the questions were designed to test the students knowledge and comprehension of the material and not their ability to synthesize or analyze the course material.

Data Instrument

Each course instructor developed forty test questions, twenty knowledge based and twenty comprehension based. The instructor then randomly selected ten questions from the knowledge base group and ten questions from the comprehension base group to make up the pretest. The remaining ten questions from each group made up the questions for the posttest. This was done to reduce the chance of test bias.

Student participation in the study was voluntary. A cover letter explaining the study's purpose accompanied each pretest and served as a formal consent form (Appendix C). Students completed the pretest and posttest on a Computest form, using their social security number to insure anonymity and allow for the matching of pre and posttest responses.

Data Processing, Categorization, and Analysis

Completed pretests and posttests were divided into traditional and nontraditional groups. A scaling technique was used assigning a scale value of 1 for the correct answer and a scale value of 0 for all incorrect answers. Test scores were tallied for each group. Means, standard deviations, and T-scores were calculated for the traditional student pretest group, nontraditional student pretest group, traditional

student posttest group, nontraditional student posttest group. Standard T-scores were used to equalize the performance between the two different academic curricula used in the HSI 120 and HSI 122 courses. The mean gain scores were based on the raw scores of each student. The raw scores and standard T-scores were calculated to test the study hypothesis and subhypotheses.

While the nontraditional group scored significantly higher on the pretests, the difference was not significant on the posttest. And although the traditional group achieved a higher gain score, again the difference was not significant.

CHAPTER FOUR

Presentation and Analysis of Data

The purpose of this study was to investigate the difference between pretest achievement and posttest achievement of traditional and nontraditional college students.

The subhypothesis included the following five statements: There is no significant difference in the pretest achievement of traditional and nontraditional college students. There is no significant difference in the posttest achievement of traditional and nontraditional college students. There is no significant academic growth of traditional college students. There is no significant academic growth of nontraditional college students. There is no significant difference between the academic growth of traditional and nontraditional college students.

The data gathering instrument consisted of information organized in four general parts. The first section recorded the age of the student to determine if they were traditional or nontraditional. A second section recorded the individual student's pretest score. A third section recorded the individual student's posttest score. A fourth section recorded the

individual student's gain score.

The pretest raw scores were converted to standard T-scores. An analysis of the total pretest responses for the traditional group yielded a mean of 46.87 with a standard deviation of 9.41. The analysis of the total pretest responses for the nontraditional group yielded a mean of 52.14 with a standard deviation of 10.04. The t-test for the significance of the difference between the mean responses resulted in a t-value of 2.73. This difference was significant, $P < .0074$.

Table 2 shows a comparison of the mean and standard deviation of the pretest T-scores for the two groups.

Table 2.

Comparison of the Pretest Mean T-scores
and Standard Deviation between the
Traditional and Nontraditional Groups

	Group		
	Traditional (n=50)	Nontraditional (n=52)	t-value
M	46.87	52.14	2.73
SD	9.41	10.04	

$P < .05$

The posttest raw scores were converted to standard T-scores. An analysis of the total posttest responses for the traditional group yielded a mean T-score of 49.21 with a standard deviation of 12.55. The analysis of the total posttest responses for the nontraditional group yielded a mean of 52.15 with a standard deviation of 9.10. The t-test for the significance of the difference between the mean responses resulted in a t-value of 1.36. This difference was not significant.

Table 3 shows a comparison of the mean and standard deviation of the posttest T-scores for the two groups.

Table 3.

Comparison of the Posttest Mean T-scores
and Standard Deviation between the
Traditional and Nontraditional Group

	Group		
	Traditional (n=50)	Nontraditional (n=52)	t-value
M	49.21	52.15	1.36
SD	12.55	9.10	

PK.05

An analysis of the total gain score for the traditional group yielded a mean of 4.72 with a

standard deviation of 3.15. The analysis of the total gain score for the nontraditional group yielded a mean of 3.76 with a standard deviation of 3.11. The t-test for significance of the difference between the mean scores resulted in a t-value of 1.53. This difference was not significant.

Table 4 shows a comparison of the mean and standard deviation of the total gain scores for the two groups.

Table 4.

Comparison of the Gain Score Mean
and Standard Deviation between the
Traditional and Nontraditional Groups

	Group	
	Traditional	Nontraditional
M	4.72	3.76
SD	3.15	3.11
N	50	52

The bar graph in Figure 1 shows a comparison of the mean scores in the pretest, posttest, and gain scores for the composite groups. The nontraditional group has the highest mean for the pretest and the posttest. The traditional group has the highest mean for the gain

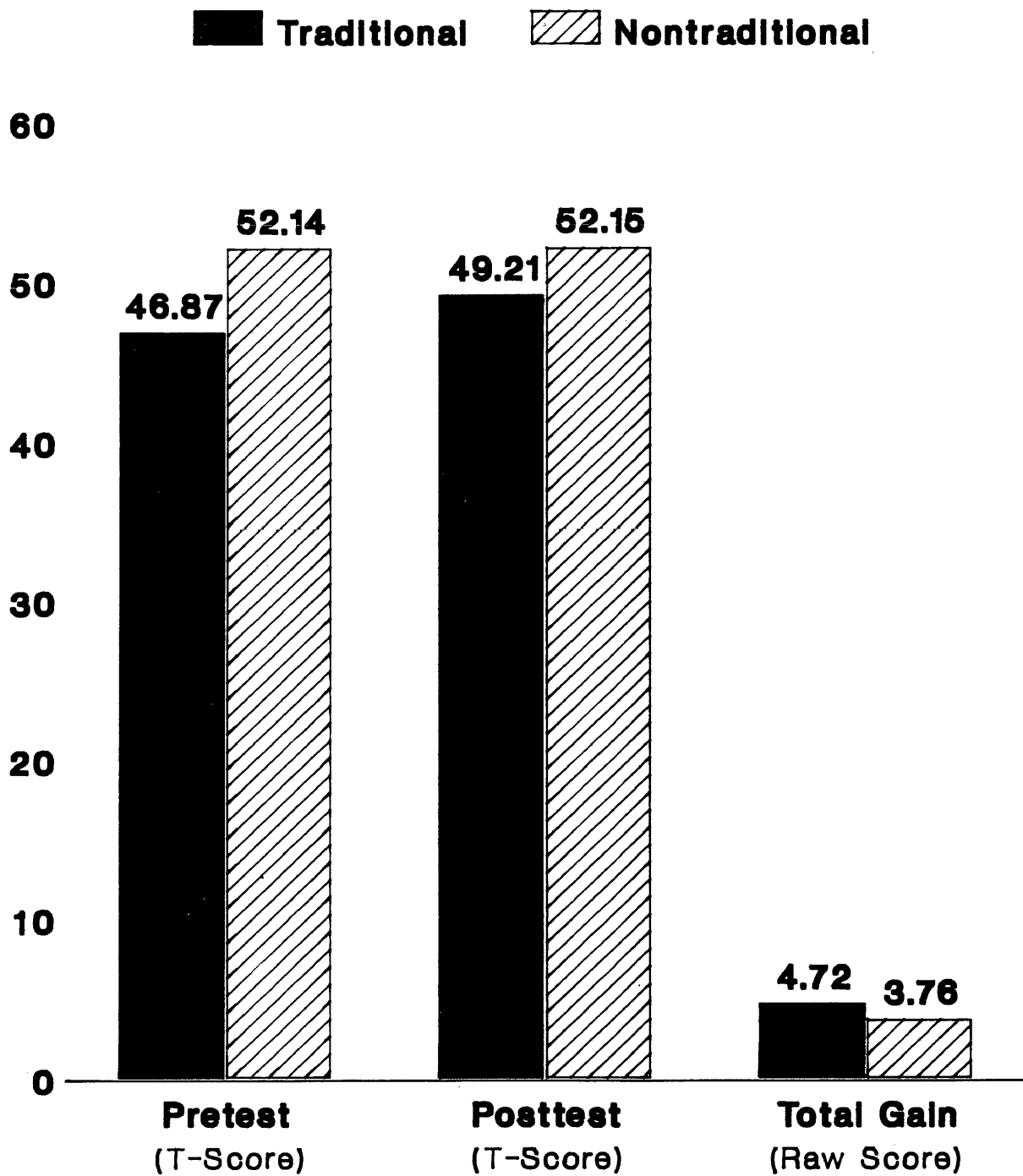


Figure 1. Comparison of Mean Scores of Traditional and Nontraditional groups.

score.

There is a significant difference at the 5 percent level on two-tailed test for the nontraditional group compared to the traditional group on the pretest. The nontraditional group scored higher on the posttest compared to the traditional group but not significantly higher. The traditional group demonstrated a higher gain score between the pretest and posttest than the nontraditional group, but not a significant gain.

CHAPTER FIVE

Summary, Conclusion, and Recommendations

Restatement of the Problem

The purpose of this study was to determine if there was a significant difference between the pretest achievement and posttest achievement of traditional and nontraditional college students.

The five subhypotheses tested were: There is no significant difference in the pretest achievement of traditional and nontraditional college students. There is no significant difference in the posttest achievement of traditional and nontraditional college students. There is no significant academic growth of traditional college students. There is no significant academic growth of nontraditional college students. There is no significant difference between the academic growth of traditional and nontraditional college students.

Description of Procedures Used

The instrument used to gather data consisted of four primary parts. The first part recorded the age of the student to determine if they were traditional or nontraditional. A second section recorded the individual student's pretest score. A third section recorded the individual student's posttest score. A

fourth section recorded the individual student's gain score.

For this study, the 102 college nursing students at Methodist College between August 28, 1989 and December 22, 1989 were divided into two groups, traditional and nontraditional. There were fifty students in the traditional group and fifty two students in the nontraditional group. After determining the mean, and standard deviation for the pretest, posttest, and gain score, raw scores and standard T-scores were computed and the difference between composite groups tested by a t-test of means.

Principal Findings and Conclusions

The data indicate there is a significant difference at the 5 percent level between pretest achievement of traditional and nontraditional college students. The nontraditional group has a significantly higher mean score in the pretest score than does the traditional group. The mean of the pretest score is 5.27 higher for the nontraditional group than the traditional group.

The data indicate there is no significant difference in the posttest achievement of traditional and nontraditional college students. On the basis of

this analysis, the null hypothesis can be accepted for the major hypothesis and for the subhypothesis regarding posttest achievement.

The data indicate there is no significant academic growth attained by the traditional group of students in this study. On the basis of this analysis the null hypothesis can be accepted.

The data indicate there is no significant academic growth attained by the nontraditional group of students in this study. On the basis of this analysis the null hypothesis can be accepted.

The data indicate there is no significant difference in the academic growth between traditional and nontraditional college students. The comparison of gain scores between the two groups reveals that the traditional group has the highest mean score. The score of this group was not significantly higher, therefore, the null hypothesis can be accepted.

Recommendations

There is evidence from this study that there is a significant difference in the pretest achievement of nontraditional college students compared to traditional college students. The nontradition group is twenty three years of age or older who have entered the nursing program at Methodist College. Although the

general principal that prior knowledge does affect test taking can be supported, the details of how, when and why are still unclear. This research does, however, provide teachers with the evidence that prior knowledge possessed by adult learners does enhance their pretest achievement level in first year college courses. Further research needs to be done to help educators progress toward a more specific understanding of how background knowledge functions in particular test taking situations.

Given the data, I recommend experimenting with nontraditional students being allowed to progress to the next course level after testing out of the two courses identified in this study. A "cut off" score could be established permitting students, scoring at a certain level, to test out of the courses.

A study could be done to compare Methodist College with another Allied Health College in Nebraska. Traditional and nontraditional students, as well as test scores could be compared. If one student group is significantly outperforming another student group, recommendations for refinement could be initiated.

A factor that may contribute to the level of nontraditional pretest achievement is how long the

adult learner has been out of a formal education program. More research is needed to determine how age and prior knowledge affect test scores.

The pretest and posttest could be revised with the number of items substantially increased. Research needs to be done to determine more specifically whether it is factual and content knowledge or good processing skills that contributes to a higher pretest score by adult learners.

College Implications

The implications of this study are that nontraditional college students demonstrate higher pretest achievement scores as compared to the traditional college student. This study provides college teachers with a resource of information to build upon in their efforts to enhance their students ability to use their prior experiences and skills to advance their knowledge.

Bibliography

- A Nation at Risk, Congressional Record - Senate. May, 1983, p. S6060 - S6065.
- Anderson, R. C., Reynolds, R. E., Schallert, D. L. and Goetz, E. T. (1977). Frameworks for comprehending discourse. American Educational Research Journal. 14, p. 367-81.
- Aslanian, C. & Brickell, H. (1980). Americans in Transition: Life changes as reasons for adult learning. New York: College Board.
- Bischof, L. J. (1969). Adult Psychology, New York, Harper & Row Publishers.
- Castleberry, S. (1984). Comprehension, metacomprehension and instructional implications for college students, Reading World, 24, p. 24-29.
- Chabe, A. M. (1982). Initial professional understandings of undergraduate teacher education students. College Student Journal, 16 (4) p. 353-57.
- Cross, P. K. (1974). Beyond the Open Door, San Francisco: Jossey-Bass.
- Cross, P. K. (1981). Adults as Learners. Increasing Participation and Facilitating Learning. San Francisco: Jossey-Bass.
- Darkenwald, G.G. (1982). Factorial structure of differences in teaching behavior related to adult/pre-adult student age status. Adult Education, 32 (4), p. 197-204.
- Draves, W. A. (1984). How to Teach Adults. The Learning Resources Network (LERN).
- Educational Products Information Exchange Institute, Performance Report, Grant Number NIE-G-79-0083, Sept 1979.
- Feeley, J. T. & Wepner, S. B. (1986). Does Prior Knowledge Affect College Students' Performance on a State Developed Competency Test, March 1986.

- Fitzgerald, J. & Spiegel, D. (1983). Enhancing children's reading comprehension through instruction in narrative structure. Journal of Reading Behavior, 15(2), p. 1-9.
- Greer, L.R. (1980). Persistence and academic success among nontraditional age students at a junior college. Paper presented at the Association for Institutional research Atlanta, GA. (ERIC No Ed 189942)
- Heidt, E.V., (1980). Differences between media and differences between learners: can we relate them? Instructional Science, 9, p. 365-91.
- Hirsch, E. D. (1984). Reading requires more than words. New York Times, p. 65-66.
- Huston-Hoberg, L. & Strange, C. (1986). Spouse support among male and female returning adult students. Journal of College Student Personnel, 27, p. 388-94.
- Johnson, D. & Barrett, T. (1981). Prose comprehension: A descriptive analysis of instructional practices. Children's prose comprehension. Newark, Delaware: International Reading Association.
- Johnston, P. (1983). Reading comprehension assessment: A cognitive basis. Newark, Delaware: International Reading Association.
- Lipson, M. Y. (1983). The influence of religious affiliation on children's memory for text information. Reading Research Quarterly, 28, p. 448-57.
- Knowles, M. S. (1970). The Modern Practice of Adult Education: Andragogy versus Pedagogy. New York: Association Press.
- Langer, J. (1984). Examining background knowledge and test comprehension. Reading Research Quarterly, 19, p.468-81.
- McGuire, M.D. (1986). Identification of students at risk for early withdrawal. Paper presented at American Educational Research Association, San Francisco, CA. (ERIC No ED 273672)
- McKinney, J., Small, S., O'Dell, N., Coonrod, B., (1988). Identification of predictors of success for

- the NCLEX and students at risk for NCLEX failure in a baccalaureate nursing program. Journal of Professional Nursing, 4 (1), p. 55-59.
- Montgomery, J. A., & Palmer, P. E. (1976). Reducing Attrition in an AD Program. Journal of Professional Nursing, 24, p. 49-51
- Noel, L. (1978). Reducing the Dropout Rate. San Francisco, CA. Jossey-Bass.
- Nursing Shortage Fact Sheet. Washington, DC, American Association of College of Nursing, 1987.
- Quinto, A.L. and Weener, P.D. (1983). Assessing metacognitive skills in problem solving. Paper presented at the American Educational research Association, Montreal, Quebec. (ERIC No ED 229403)
- Reis, R. & Spekman, N. (1983). The detection of reading-based versus text-based inconsistencies and the effects of direct training of comprehension monitoring among upper-grade poor comprehenders, Journal of Reading Behavior, 15, p. 49-59.
- Rigney, J.W., (1978) Cognitive Learning Strategies and Dualities in Information Processing. R.E. Snow, P.A.
- Rose, H. A. (1965). The effect of preadmission interview on students of doubtful academic ability. College and University Bulletin, 41 (1), p.80-88.
- Schlossberg, N. (1981). A model for analyzing human adaptation to transition. The Counseling Psychologist, 9, p. 2-17.
- Stein, N. & Baker, L. (1981). The development of prose comprehension skills. Children's prose comprehension. Newark, Delaware: International reading Association.
- Stevens, J. C. (1982). Can we improve reading by teaching background information? Journal of Reading, 25, p. 326-28.
- Thorndyke, P.W. & Stasz, C. (1980) Individual differences in procedure for knowledge acquisition from maps. Cognitive Psychology, 12, p. 137-75.
- Tinto. V. (1975). Dropout from higher education: a

theoretical synthesis of recent research. Review of Educational Research, 45, p. 89-125.

Trabasso, T (1980). On the making of inferences during reading and their assessment, Urbana University of Illinois, Center for the Study of Reading, (Ed. 181-429).

U.S. Department of Education, Survey of College Enrollment, Office of Adult Learning Services, Sept 1989.

Winograd, P. and Johnston, P. (1980), Comprehension monitoring and the error paradigm , Urbana University of Illinois: Center for the Study of Reading, (Ed. 181-425).

APPENDIX A

NEBRASKA METHODIST COLLEGE OF NURSING & ALLIED HEALTH

PRETEST HSI 120

MULTIPLE CHOICE: (Choose most appropriate answer)

1. Jean Watson wrote about the:
 1. Hierarchy of needs
 2. Motivation of behavior
 3. Theory of anger
 4. Philosophy of caring

2. To facilitate communication, all of the following would be used except:
 1. Establish rapport
 2. Give advice
 3. Give information
 4. Listen for expression of feelings

3. The Johari Window illustrates:
 1. Building a relationship involves enlarging your blind and hidden areas while decreasing your free areas.
 2. Building a relationship involves enlarging your free areas while decreasing your blind and hidden areas.
 3. Building a relationship involves opening your windows so all other people can see you.
 4. All of the above.

4. According to Powell, the three faculties of man which must be integrated if one is to advance in the process of becoming a person are:
 1. Will, intellect, emotions
 2. Values, interests, skills, knowledge
 3. Needs, wants, limitations
 4. None of the above

5. Which of the following is not a developmental crisis?
 1. Divorce
 2. Onset of puberty
 3. Old age
 4. Menopause

6. When the helper points out discrepancies between things helpes have been saying and what they actually have been doing it's called:
 1. Self-disclosure
 2. Confrontation
 3. Concreteness
 4. Genuineness

7. In considering the four phases of crisis, all of the following are true except:
 1. Shock and denial
 2. Bargaining
 3. Recoil/acknowledgement
 4. Adaptation/resolution

8. If a group is cohesive, the members:
 1. Will be retained
 2. Will feel secure
 3. Will be loyal
 4. All of the above

9. Yielding to obvious group pressure is:
 1. Obedience
 2. Compliance
 3. Group culture
 4. A group norm

10. In realistic conflict there are:
 1. Opposed needs
 2. Opposed interests
 3. Opposed personalities
 4. Opposed values

TRUE/FALSE: (MARK 1 FOR TRUE, 2 FOR FALSE)

11. A person's self-concept can vary from day to day.
T or F

12. Anger is a primary emotion. T or F

13. Part of the healing process is to give faith and hope to a patient. T or F

14. Every dying patient goes through Kubler-Ross's five stages. T or F

15. Behavioral communication theory states one cannot not communicate. T or F

16. Group norms are often established subliminally.
T or F
17. A verbally agreed upon dress code would be considered an explicit norm. T or F
18. Being a lottery winner does not induce stress.
T or F
19. Ordinarily, children do not experience the grieving process. T or F
20. Self acceptance is a vital ingredient to assertiveness.
T or F

APPENDIX B

APPENDIX B

NEBRASKA METHODIST COLLEGE OF NURSING & ALLIED HEALTH

PRETEST HSI 122

TRUE/FALSE:

1. A major factor in the development of health care between World War II and the early 1980's was the widely held view that health care is a right.

T or F

MULTIPLE CHOICE:

2. Utilization of technology by consumers is dependent upon:
 1. Location of the client
 2. Risks/Costs involved
 3. Estimate of client benefit
 4. All the above

MATCHING: Match the facility in Column I to the definition in Column II.

COLUMN I

3. _____ Health Maintenance Organization
4. _____ Hospice
5. _____ Ambulatory

COLUMN II

1. Facility designed to meet needs of the terminally ill clients.
2. Clients go to the facility for service and return home the same day.
3. Provides health care for individuals who prepay a fixed amount.
4. Federal health program that provides assistance to the elderly.

6. High-level wellness is defined as:
 1. Possessing a balance between positive and negative attributes at a given point in time.
 2. The maximum level of functioning of an individual in relationship to his capabilities.
 3. A state of relative consistency with the body.
 4. Complete physical, mental and social well-being.

7. The most influential factor which affects health behavior according to Rosenstock is:
 1. Cue to action
 2. Perceived benefit
 3. Perceived barriers
 4. Perceived cost

TRUE/FALSE

8. The focus of the "1990 Objectives for the Nation" is prevention of disease in healthy people.

T or F

9. Holistic health care concentrates on all of the following facets of the being except:
 1. Mental
 2. Social
 3. Physical
 4. Spiritual

10. The three leading causes of death for adults in the United States are:
 1. Heart disease, cancer, stroke
 2. Accidents, stroke, suicide
 3. Suicide, heart disease, stroke
 4. Stroke, accidents, heart disease

11. The recommended number of daily servings from each food group for an adult is:
1. Milk - 2, 3, 4; bread & cereal - 2; fruit & vegetable - 4; meat - 2
 2. Milk - 2, 3, 4; bread & cereal - 4; fruit & vegetable - 4; meat - 2
 3. Milk - 2, 3, 4; bread & cereal - 4; fruit & vegetable - 2; meat - 2
 4. Milk - 2, 3, 4; bread & cereal - 2; fruit & vegetable - 2; meat - 4
12. True or False:
An easy way to figure out how to achieve a safe cardiovascular training effect is to subtract the subject's age from 220, and exercise at 90% of that heart rate for 20 minutes a day. T or F
13. Stabilization, adaptation to stressors, and normalization of hormone levels are characteristic of which stage of the General Adaptation Syndrome (GAS)?
1. Resistance
 2. Exhaustion
 3. Normalization
 4. Alarm reaction
14. True or False:
Universal precautions refers to the practice of treating all body fluids as potentially hazardous. T or F
15. Identify the primary motivator for change:
- | | |
|----------|---------------|
| a. Stage | c. Gender |
| b. Role | d. Discomfort |
16. Personal Distance
1. Makes touch and discussion possible
 2. Zone in which most healthcare delivered
17. Social Distance
3. Formal business & social conversation occurs
18. Characteristics of a humanistic value system include:
1. Concern for goals of the individual
 2. Providing treatment to cure an individual
 3. Genetic inheritance of personal attitudes
 4. Emphasis on length of life

TRUE/FALSE: (Mark 1 if true; mark 2 if false)

19. --- Professional practice which incorporates the carative factors and the scientific approach would be considered holistic health care.
20. --- Which of the following describes correct application of the cognitive sequencing process by a health care provider?
1. Compare the client's progress with the expected outcome during evaluation
 2. Do not change the plan of care once it is developed
 3. Develop a course of action based upon intuition
 4. All of the above

DiskName: CARTER

DC: nrm: 01/90

APPENDIX C

APPENDIX C

CONSENT FORM

Dear Student:

Because Methodist College promotes research and scholarly activities, I invite you to participate in a research activity titled, Pre and Post Comparison of Course Related Knowledge Base.

1. The purpose of this research is to measure the subject matter knowledge base of students during the first day of class and again during the last week of class.
2. The procedure for this research will include providing you with a short twenty (20) question pretest today and a twenty (20) question post test during the last week of class. The results of the pre and post test will not affect your grade in this class in any way.
3. The purpose of this study is to determine if there is a relationship between the pretest achievement and the post-test achievement of traditional and nontraditional nursing students.

Methodist is required by law and by its own philosophy to maintain complete confidentiality of all records pertaining to this research. No information pertaining to this research will be released to any person or entity without the signed permission of the student. Your consent is voluntary and you have the option to withdraw at any time. I want to thank you for taking the time to assist me with this research project.

Sincerely,

David J. Carter M.S.

I authorize Methodist College and David Carter to use my test(s) in his research study the conditions listed in items (1), (2) and (3) above.

----- Date -----
Student Signature

----- Date -----
Witness