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Do nurses write nursing diagnoses correctly?

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THESIS TITLE:

DO NURSES WRITE NURSING DIAGNOSES CORRECTLY?

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November, 1991

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

ABSTRACT:

In this study it was proposed to examine the effect of educational intervention on nurses' abilities to write nursing diagnostic statements. Studies have shown that the way nurses write nursing diagnoses is an area of weakness in the overall documentation process, and this was perceived by the researcher as being true also in Western Australia. One reason for this, identified in the literature, appears to be lack of education in writing nursing diagnoses.

This study was conducted in a 190-bed public hospital using an experimental research design, using control and experimental groups to test the hypothesis that nurses' abilities to write nursing diagnoses correctly will be improved by inservice education. A sample of 50 nurses was surveyed and were assigned to two groups of 25. Both groups were pre and post tested. Following data collection, the results were statistically analysed using Analysis of Covariance to determine the effects of the education.

Results of the analysis revealed that the education of the 25 experimental group nurses had a significant effect on their ability to write nursing diagnoses - $F(1,29) = 144.35; p < 0.001$. Other variables - educational background, level of experience, and nursing position held - were also examined but these did not appear to have an impact on the nurses' knowledge of nursing diagnoses.

This study supports the conclusions reached by three previous studies on this subject, that an area of weakness does exist in this area of documentation, and that nurses

can be taught how to write nursing diagnoses correctly in their workplace.

"I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text".

Graeme Boardley, November, 1991.

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CHAPTER 1 - INTRODUCTION

PROBLEM FOR STUDY:

Currently nursing diagnoses are written in such a way that they are ambiguous and in most cases do not conform to the correct format for writing such statements. This results in excess time being taken to formulate care plans, and a breakdown in communication amongst nursing staff (Andersen and Briggs, 1988; Hanson, Kennedy, Dougherty and Baumann, 1990). The most commonly used form of diagnosis is the North American Nursing Diagnosis Association (NANDA) format, and it is this format that provides the guidelines for this study.

SIGNIFICANCE OF THE STUDY:

Nursing Diagnoses were introduced to Australia in the early 1980's and is part of one of the most important areas in nursing, namely communication. Without the correct use of nursing diagnoses, the communication process amongst nursing staff is greatly disrupted (Shuey and Hoaks, 1989). This study examined an area of weakness in the use of nursing diagnoses, namely lack of education (Hanson et al., 1990), to determine whether or not nurses' skills in this particular area could be improved by inservice education. This study also has implications for further advancement into other facets of documentation in nursing, and will help to add to the overall body of knowledge in nursing.

Kim (1982) in Hurley (1986) states:

One of the major reasons why I believe nursing diagnosis is so important to the nursing profession is that it provides the language that is uniquely nursing - by which we describe nursing and with which nursing can identify (Hurley, 1986, p. 1).

QUESTION FOR STUDY:

Does inservice education on nursing diagnoses improve the skill of nurses in writing nursing diagnostic statements?

Subsidiary Questions:

Does the level of experience of nurses have any effect on nurses' abilities to write nursing diagnostic statements?

Do the positions held by nurses have any effect on nurses' abilities to write nursing diagnostic statements?

Does the educational background of nurses have any effect on nurses' abilities to write nursing diagnostic statements?

HYPOTHESES:

Null Hypothesis: Inservice education will not improve the ability of the nurses to write nursing diagnoses correctly.

Alternative Hypothesis: The nurses' ability to write nursing diagnoses correctly will be improved by inservice education.

DEFINITION OF TERMS:

Conceptual:

Ambiguous - having two or more possible meanings.
(Harbor and Payton, 1986, p. 31).

Correctly (Adverb of Correct) - free from error; in accordance with accepted standards. (Harbor et al., 1986, p. 230-1).

Operational:

For the purpose of this study, the following terms are defined as:

Ambiguous (Ambiguity) - open to a range of interpretations, unclear in meaning, not precise in use.

Correct - using precise terminology; using keywords first, in accordance with NANDA terminology and standards (1988 list).

Nursing Positions Held:

Clinical Nurse - a registered nurse with seven or more years experience; or with 4 years experience and a Bachelor of Health Science (Nursing) degree - based on Western Australian career structure.

Registered Nurse - a nurse who has completed a three year diploma (Tertiary or Hospital based).

Enrolled Nurse - a nurse who has completed either an 18 month hospital based course, or a two year Associate Diploma of Health Science (Nursing).

CHAPTER 2 - REVIEW OF LITERATURE

GENERAL LITERATURE:

Nursing diagnoses were introduced as a means of communication in nursing, and were seen as a process that would improve patient care planning which would eventually help to distinguish nursing as a profession in its own right (Tribulski, 1988).

Communication is one of the most important areas in nursing, both between the nurse and patient, and between the nurse and his/her peers in the health care field. The most important form of written communication is the nursing care plan and associated documentation. Shuey et al. (1989, p. 184) state that "effective communication with colleagues is essential for quality nursing practice. One method that encourages regular communication . . . is the concept of nursing diagnosis". This is supported by Tribulski (1988, p. 33) who says "above all else, nursing diagnosis is a tool for communication among professionals".

The actual term "nursing diagnosis" was, according to Thomas (1987), introduced in the early 1950's by McManus and Fry, as just one part of the overall nursing process. Bennett (1986) suggests that in 1950 nursing diagnoses were linked together with nursing problems to form the completion of the assessment phase of the nursing process, to further improve the classification of nursing problems. The most widely used and accepted nursing diagnoses, are those formulated by NANDA. NANDA was formed in 1982,

replacing the National Conference on Nursing Diagnosis which had been naming and classifying the phenomena since 1973 (Thomas, 1987). NANDA constantly review, reclassify and add to the list of nursing diagnoses, and at their eighth conference in 1988, 16 new diagnoses were proposed and accepted (Carroll-Johnson, 1989, p. 423). This places importance on continuing education of, and updating for all nursing.

Shoemaker (1984) is quoted by McRae (1988) as having defined nursing diagnosis as:

a clinical judgement about an individual, family or community that is derived through a deliberate systematic process of data collection and analysis. It provides the basis for prescriptions for definitive therapy for which nursing is accountable. It is expressed concisely and includes the aetiology of the condition when known (p. 12).

The formulation of a nursing diagnosis is a step by step process, and a formal diagnostic statement has two parts: the actual or potential problem that the patient has; and the relevant aetiology for each problem. The two part statement is joined by the phrase 'related to'. (Anderson et al., 1988; Tribulski, 1988; McRae, 1988).

Examples of correct nursing diagnostic statements, written according to NANDA guidelines and containing the two components outlined are:

Self care deficit, bathing/hygiene related to left sided weakness secondary to medical condition.

Skin integrity impaired, potential for related to continuous pressure secondary to enforced bed rest.

Fear related to hospitalisation.

Nutrition altered, more than body requirements related to increased appetite.

Fluid volume deficit related to inadequate oral fluid intake.

(Lederer, Marculescu, Mocnik and Seaby, 1988).

LITERATURE ON PREVIOUS FINDINGS ON EDUCATION IN NURSING DIAGNOSES:

Education of nurses in the formulation and utilisation of nursing diagnosis is attracting more and more attention from researchers. Kim (1989) considers that more research on nursing diagnoses is required, and some studies that have been completed have produced clear evidence that nurses require more education in the process of writing nursing diagnoses.

Results obtained from recent research conducted in this field indicate that educating nurses in their own clinical areas does have a positive effect. Following an educational program based on a needs assessment survey, Hanson et al. (1990), reported that improvements occurred in most areas of documentation, particularly in development of nursing diagnosis, outcomes and approaches. "The greatest percentage change was seen in nursing diagnosis (+22%) . . . and 88% of the nursing diagnoses were on the NANDA list" (Hanson et al., 1990). Previous studies also had similar conclusions. Bonawit and Nolan (1989), concluded that through educational workshops it is possible to introduce nursing diagnoses in the workplace

effectively. Johnson and Hales (1989) stated, as a result of their study, "that nurses can be taught to use nursing diagnosis in the clinical setting".

The methodology used in these three studies varied slightly with Hanson et al., (1990) conducting a needs assessment survey to determine the specific learning needs of 72 nurses. This survey showed a lack of knowledge in the use of and formulation of nursing diagnoses. One educational session was given, followed by the same assessment survey. Bonawit et al. (1989) conducted their study using a series of educational workshops focusing on developing skills in the use of nursing diagnosis terminology. 12 volunteer registered nurses of varying experience were educated and an assessment followed the workshops to determine the level of diagnostic formulation. Johnson et al. (1989) in their study used a pretest/posttest single group design, which incorporated a mandated inservice educational program upon employment for 82 newly employed nurses.

None of these three studies have examined the effect of other variables impacting on their results. Variables such as level of experience, nursing educational background, and the position held by the nurse, all need to be investigated.

METHODOLOGY LITERATURE:

To examine the area of causality, experimental or quasi-experimental research designs can be used. The

strict control of the experimental designs make them the most powerful method, but quasi-experimental designs have been used, where experimental designs could not, as an alternative to determining causality. One type of quasi-experimental design is 'The Untreated Control Group Design with Pretest and Post-test', which is generally the first design discussed for general interpretation. In this design the control and experimental groups are pretested, then the experimental group is exposed to the independent variable or treatment, followed by post-testing of both groups. (Burns and Grove, 1987, p. 256-60).

According to Seaman (1987, p. 203) this design is called 'The Four-Cell Design'. The pretest, post-test, control/experimental group design allows for comparison of similarities between the two groups. Analysis of the effect of an independent variable on the experimental group only is also possible.

The design chosen for this study is the four cell design, because of the strength of the pretest/posttest design with a control group.

CHAPTER 3 - THEORETICAL FRAMEWORK

THEORETICAL FRAMEWORK:

The theoretical rationale for this study is based on Benner's (1984) research, - in which she applies the Dreyfus Model of Skill Acquisition to clinical nursing.

Benner (1984) says that the Dreyfus model states:

that in the acquisition and development of a skill, a student passes through five levels of proficiency: novice, advanced beginner, competent, proficient, and expert (p. 13).

This model is not only applicable to the student nurse, but to all nurses working in the health care field. The five levels of proficiency are:

Novice - "Beginners have had no experience of the situations in which they are expected to perform. . . . any nurse entering a clinical setting where she or he has no experience . . . may be limited to the novice level . . ." (Benner, 1984, p. 20-1).

Advanced Beginner - "One who can demonstrate marginally acceptable performance, one who has coped with enough real situations . . . has enough background experience to recognise aspects of a situation." (Benner, 1984, p. 291).

Competent - ". . . the nurse who has been on the job in the same or similar situations two to three years . . . conscious, deliberate planning that is characteristic of this skill level helps achieve efficiency . . ." (Benner, 1984, p. 25-7).

Proficient - "Proficient nurses understand a situation as a whole because they perceive its meaning in terms of long-term goals. The proficient nurse learns from experience what events to expect . . ." (Benner, 1984, p. 27-8).

Expert - "The expert nurse, with an enormous background of experience, now has an intuitive grasp on each situation and zeroes in on the accurate region of the problem . . ." (Benner, 1984, p. 32).

It was considered that the population investigated in this study would be novices and advanced beginners. Those nurses who had had no formal education on nursing diagnoses were equated to the novice, and those who had had some educational input to the advanced beginner. These classifications were made regardless of years of experience as a nurse. Alexander in Marriner-Tomey (1989, p. 191), interprets Benner as saying that any nurse, irrespective of experience may in certain instances be considered a novice. Figure 3.1 gives a diagrammatic interpretation of how the nurses were expected to progress throughout the period of this study.

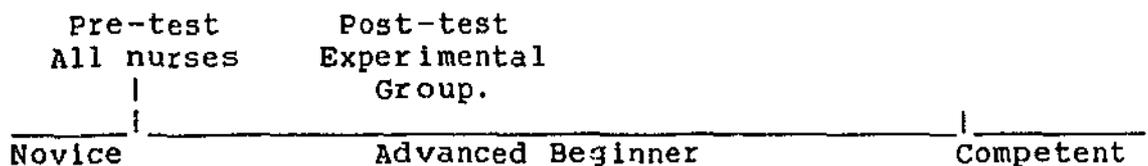


Figure 3.1 Expected progression of the experimental group through Benner's levels of competence.

It was expected that all nurses in the experimental group would, at the completion of the educational intervention suit the classification of advanced beginner.

Given the apparent lack of ability at formulating nursing diagnoses, it is likely that no nurses could be classified as competent under Benner's theory. These categorisations became more clear with the gathering and analysing of the data from this study.

VARIABLES IMPACTING ON THE STUDY:

Dependent variable - the ability of the nurses to formulate nursing diagnostic statements.

Independent variable - the educational intervention, an informal tutorial session, accompanied by handouts, given to the experimental group but not to the control group.

Subsidiary Independent variables:

Level of experience - number of years.

Current position held - Enrolled nurse, Registered nurse, Clinical nurse.

Nursing educational background - tertiary (Diploma or Bachelor) or Hospital Based.

The expectation of the researcher was that these subsidiary variables would have had an impact on this study. It was thought that level of experience and position held would not have had as significant an effect as educational level. However, the type of education determines whether or not formal nursing diagnosis education was part of the curriculum for training and it was expected that nurses with some form of tertiary education would achieve higher pre-test scores.

CHAPTER 4 - METHOD OF INVESTIGATION

DESIGN OF THE STUDY:

This study was conducted using an experimental research design. The specific design used was the four-cell design with random allocation of subjects to the two groups, using one experimental and one control group (Figure 4.1). The educational intervention was given to the experimental group, and then both groups were post tested, over a period of two weeks, both having been pre-tested.

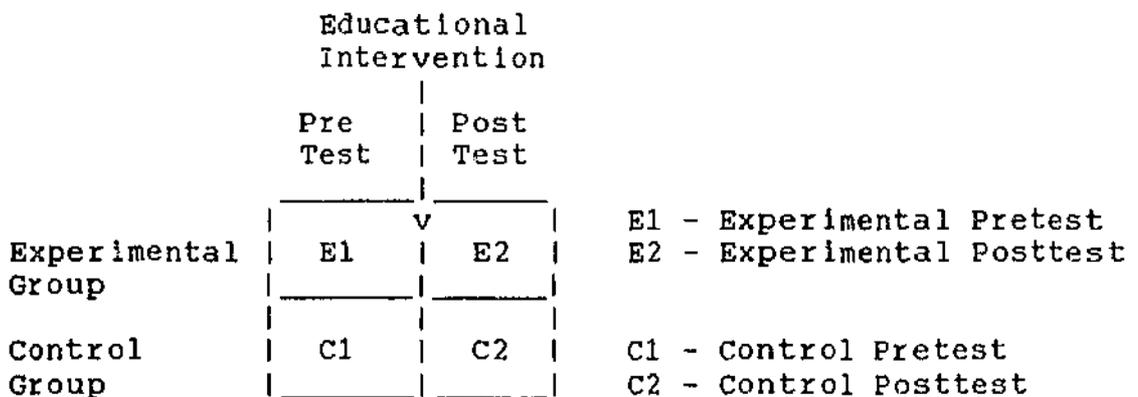


Figure 4.1 - Design of the Study.

SAMPLE USED:

The sample used for this study was a group of 50 nurses, clinical, registered, and enrolled nurses, working on four wards of a 190 bed public hospital on two days chosen at random. This convenience sample was used so that the pretest, educational intervention and posttest could all be carried out quickly with minimal effects of extraneous variables which may have interacted over a

longer time period or wider number of hospitals. Questionnaires were handed to the first 50 willing participants, on two surgical wards and two medical wards. This sample was broken into two groups of 25, representing the experimental and control groups. Subjects were assigned to groups by coded questionnaires (Experimental group numbers 1 to 25, Control group numbers 26 to 50). In order to obtain an even distribution in each group, both groups contained nurses from one surgical and one medical ward.

EDUCATIONAL INTERVENTION:

The educational intervention (Independent Variable) took the form of an informal lecture/tutorial, of approximately 30-40 minutes duration. The participants were taught, by the researcher, in small groups ranging in number from two to four. Small group sizes were necessary due to availability of subjects and the organisation of wards.

During the tutorial a brief history of nursing diagnoses was given, along with an explanation of NANDA terminology and the correct method for writing nursing diagnostic statements. Short scenarios were used for teaching purposes and handouts (Appendix C) were distributed, which included a list of NANDA nursing diagnoses and the material covered in the lecture/tutorial. The educational program will also be offered to the control group following completion of this study.

Components of the tutorial included an explanation of

using keywords first, the necessary parts of a nursing diagnostic statement, and a brief familiarisation with the newer diagnoses used by NANDA. The position of nursing diagnoses in the overall nursing process was also explained.

INSTRUMENT USED:

The instrument developed by the researcher, specifically for this study (Appendix B), is a 10 question multiple choice questionnaire coupled with 10 short scenarios requiring writing of two nursing diagnostic statements. Four short demographic data questions were also incorporated to test the subsidiary independent variables predicted to affect the dependent variable. The instrument was tested by a pilot study using night staff in the study hospital and by discussion with a nursing diagnoses expert. As a result of the pilot study the short scenario section was reduced to two responses per question instead of three to lessen the response demand placed on participants. This was the only basis for revision that arose from the pilot study. Instructions on the questionnaire were followed easily and guidelines were understood. Following discussion with an expert in the subject of nursing diagnoses, prior to the pilot study, slight alterations to the wording of three multiple choice questions were made to ensure that no ambiguity existed. The instrument was given approval as a fair and appropriate test of NANDA knowledge by the expert.

DATA COLLECTION PROCEDURES:

One hundred questionnaires were distributed to 50 nurses (2 each - one pretest and one posttest) over a period of two days. The questionnaires were handed, in person by the researcher, to any nurse, who was willing to participate in the study. The questionnaires were numbered in pairs 1 to 50 with different coloured covers, white and yellow, representing pretest and post test respectively. The participants were asked to complete the pretest as soon as possible and await further instructions before completing the posttest. Participants with papers numbered 1-25 formed the experimental group and numbers 26-50 the control group. Each group included nurses from one surgical ward and one medical ward. Collection boxes were placed in the handover rooms of each ward area to facilitate collection of completed questionnaires. Instructions were clearly printed on each questionnaire.

One week after collection of the pretest papers the educational intervention was given to the experimental group which was then asked to complete the posttest within two weeks. The control group, through personal contact and signs in each ward, were also asked to complete the posttest. The same collection procedure was used. New posttests were given to those participants who had mislaid original copies.

Collected papers were then marked by the researcher and results recorded to facilitate data analysis. The pretest response was 80% (n=40) and posttest 64% (n=32).

DATA ANALYSIS PROCEDURES:

The gathered data (pre and post test scores of both groups) were analysed using the Analysis of Covariance statistical test, to identify any significant correlations. This analysis tested the effect of the main independent variable, the educational intervention.

The subsidiary independent variables were analysed as follows:

Position held (Clinical nurse, Registered nurse, Enrolled nurse) was analysed by a one way Analysis of Variance statistical test. Level of experience was analysed by correlation using Pearson's Correlation Coefficient. Educational background was not analysed due to a low response from tertiary educated nurses, with only two returning both the pretest and posttest questionnaires.

ETHICAL CONSIDERATIONS:

All participants received a covering letter (Appendix A) explaining the nature of the project. Participation in the study was purely voluntary, and a participant could withdraw at any time without explanation or question. Anonymity of each participant was assured with no personal identification being required for any reason in this study. The questionnaires were coded for ease of analysis of gathered data, but this could in no way identify any of the participants. The data collected will remain the property of this researcher, and will be destroyed upon completion of this project. The nature of this project posed no personal risk to any of the participants.

CHAPTER 5 - RESULTS AND DISCUSSION

RESULTS:

Results obtained are based on a sample of 32 subjects, representing the number of posttests returned (Pretest n=40, Posttest n=32). The analysis of collected data by Analysis of Covariance revealed that there was a significant difference between the two groups at posttest when the scores of the groups at pretest were statistically controlled, $F(1,29) = 144.35, p < 0.001$.

The results are best represented in graph form as illustrated by Figure 5.1.

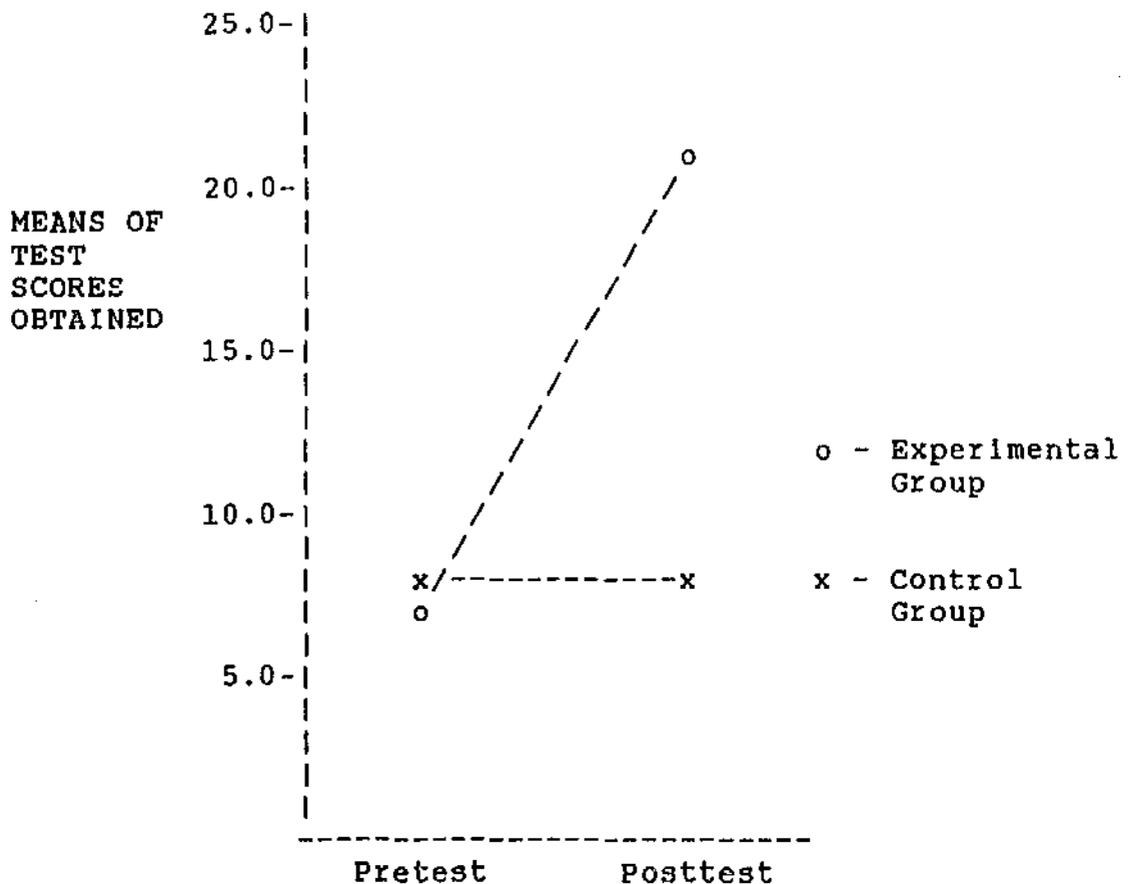


Figure 5.1 - Mean scores obtained by the two groups at pretest and at posttest.

The experimental group had a pretest mean of 7.24, and a posttest mean of 21.41, whilst the control group pretest mean was 8.07, and the posttest mean was 8.40 (Table 5.1).

TABLE 5.1

Limits and means of scores obtained by the experimental and control groups.

Experimental Group

Variable	N	Minimum	Maximum	Mean	Std. Dev.
Pretest	17	1.00	13.00	7.24	3.35
Posttest	17	15.00	27.00	21.41	4.15

Control Group

Variable	N	Minimum	Maximum	Mean	Std. Dev.
Pretest	15	2.00	14.00	8.07	3.61
Posttest	15	3.00	14.00	8.40	3.50

These results significantly support the alternative hypothesis - the nurses' ability to write nursing diagnoses correctly will be improved by inservice education.

Subsidiary Results:

Position Held (Clinical Nurse, Registered Nurse, Enrolled Nurse):

This variable was tested using a one way Analysis of Variance with three levels, using pretest data (n=40). Results obtained showed that there was no significant difference between the scores obtained by the three categories of nurses, $F(2,37) = 0.02, p>0.05$.

Educational Background (Training):

No analysis was performed on this data due to the low number of tertiary educated nurses who returned the questionnaire - Table 5.2 quotes pretest results obtained. Although the group numbers vary greatly, it is noted that there is virtually no difference in the group means.

TABLE 5.2

Scores obtained according to educational grouping.

Hospital Based Education				
N	Minimum	Maximum	Mean	Std. Dev.
36	1.00	14.00	7.75	3.63

Tertiary Based Education				
N	Minimum	Maximum	Mean	Std. Dev.
4	7.00	9.00	8.00	0.16

Level of Experience:

This variable was analysed using correlation analysis - Table 5.3.

TABLE 5.3

Years of experience and limits of scores on pretest and posttest.

Variable	N	Mean
Years	40	11.82

Variable	Minimum	Maximum
Years	1.00	30.00
Pretest	1.00	14.00
Posttest	3.00	27.00

Analysis of this data by Pearson's Correlation

Coefficient revealed that no correlation existed between scores and level of experience, $r=0.03$; $p>0.05$; $n=40$.

DISCUSSION:

The educational intervention was the variable considered most likely to have an overall effect on the outcome of this study. The alternative hypothesis as stated - the nurses' ability to write nursing diagnoses correctly will be improved by inservice education - must be accepted and the null hypothesis rejected. With the results obtained $F(1,29) = 144.35$, $p<0.001$, the educational intervention obviously made a significant and dramatic difference to the nurses' knowledge about the use of NANDA nursing diagnoses.

A further measure of the effectiveness of the educational intervention is shown in Table 5.1, where all posttest scores of the experimental group are higher than any scores achieved by the control group.

In answer to the research question - does inservice education on nursing diagnoses improve the skill of nurses in writing nursing diagnostic statements? - it must be concluded that education does improve the nurses skill.

Using the theoretical rationale for this study, Benner's application of the Dreyfus Model of Skill Acquisition, it was expected that both groups of nurses would have begun on the border between novice and advanced beginner (Figure 3.1). However, pretest scores for both groups, with no individual achieving a 50% score (means - experimental 7.24, control 8.07 - Table 5.1), indicates

that all nurses would best be described as novices.

Following the educational intervention, the experimental group scores improved markedly to a mean of 21.41 (Table 5.1), whilst the control group posttest mean was 8.40. The control group would therefore remain in the novice category whilst the experimental group, as expected, has progressed along Benner's Novice to Expert continuum (Figure 3.1). By definition, the advanced beginner according to Benner (1984, p. 291) demonstrates a marginally acceptable performance in a particular skill. As a group with limits of minimum 15.00, maximum 27.00 and a mean of 21.41, the posttest experimental group fit this description. It is speculated that a greater improvement in scores for those nurses on the lower end of the scores would be necessary for the group as a whole, to progress further along the continuum to the competent category.

Obviously the educational intervention was extremely successful, but it must be remembered that this was as a result of just one short tutorial. Such a tutorial could hardly be expected to turn a novice into a competent nurse. Although the tutorial raised the level from novice to advanced beginner, it is not ideal to have a lot of advanced beginners. Further educational intervention and time to allow development of experience in writing nursing diagnoses is required to raise the nurses up to the more desired level of competent practitioners.

Educational Background:

It was expected at the beginning of this study that

the different educational backgrounds of the participants (hospital based or tertiary based) would have had a significant impact on the results obtained. Unfortunately only four tertiary based nurses returned the pretest questionnaire, with just two of the four returning the posttest. There was therefore no statistical analysis conducted on this variable. Table 5.2 does indicate, however, that there is almost no difference in the group means, but it must be remembered that the tertiary educated group is a very small sample.

It is known to the researcher that more tertiary educated nurses were given and accepted questionnaires, but for reasons unknown, chose not to complete them. This was a disappointing aspect of the study because the tertiary education program uses nursing diagnosis as one of its bases for nursing care planning and the hospital programs previously did not. A comparison of these educational programs would have been an interesting issue to have investigated.

Anecdotal comments received from some participants may perhaps give an indication as to why the hospital educated nurses returned their questionnaires. Up to six participants stated that they were treating the study as a learning exercise, having not had any previous education on nursing diagnoses. One tertiary educated nurse however, indicated that she was "sick of anything to do with school" and had chosen not to complete the questionnaire. This feeling may perhaps exist amongst other tertiary educated nurses and would make for an interesting study for

future research.

Other feedback received revealed that some tertiary educated nurses had not been updated to the more recent NANDA diagnosis list and were not aware that the simpler diagnoses such as Pain, Diarrhoea, Constipation and others were now acceptable. This created difficulties for those who did respond, in answering the multiple choice questions.

Perhaps hospital educated nurses, who had never been taught to use NANDA, were less afraid to make errors than tertiary educated nurses, who had been taught to use NANDA and therefore felt an obligation to do well on the questionnaire. The study shows that even tertiary educated nurses, who had been taught to use NANDA, did no better on the questionnaire than nurses who had never been taught to use NANDA. This is because NANDA is constantly updating nursing diagnoses. The findings highlight the importance of constantly re-educating nurses in NANDA diagnoses whenever they are updated.

Position Held (Clinical Nurse, Registered Nurse, Enrolled Nurse):

The designations of the participants showed 8 Clinical Nurses, 16 Registered Nurses, and 16 Enrolled Nurses with no difference between the groups pattern of results. Statistical analysis by Analysis of Variance revealed $F(2,37) = 0.02$, $p > 0.05$ and therefore no conclusion could be drawn as to the effect of position held on the ability of the nurses to write nursing diagnostic

statements.

Once again the educational background influence could have mediated the effects of this variable because a higher tertiary educated nurse response may have altered the results of one or more of these groups. The group most likely to be affected by this would be the Registered Nurses who having been most recently educated would have contained the tertiary educated nurses.

Level of Experience:

The level of experience of the participants, minimum 1 year up to a maximum of 30 years, mean 11.82 years (Table 5.3), had no significant impact on the results of the study. Correlational analysis of the levels of experience for the 40 pretest subjects revealed a correlation of $r=0.03$; $p>0.05$, and therefore no relationship either positive or negative could be determined.

It was expected that the less experienced nurses, having been more likely to be tertiary educated nurses would have performed better than those who had been in the hospital system for many years. However, as previously discussed due to the low number of tertiary educated respondents this expectation did not eventuate.

At the commencement of this study three subsidiary research questions were asked, relating to the three variables discussed above. The three variables were: level of experience; educational background; and position held by the nurses; and the questions related to their effect on

the ability of the nurses to write nursing diagnostic statements. The answer to all three questions is no. From the results of this study these three variables did not have an impact for reasons previously discussed. Further assessment and research is required on these variables in future studies.

CHAPTER 6 - CONCLUSIONS, LIMITATIONS AND IMPLICATIONS FOR THE FUTURE

CONCLUSIONS:

At the beginning of this study it was perceived that an area of weakness existed, namely the ability of nurses to write nursing diagnostic statements. This was supported by the literature examined and was confirmed by the results obtained from the 40 pretest subjects. Table 5.1 shows that no pretest score was over 50% (ie the highest score obtained was 14 out of 30), by either the experimental or control group. An area of weakness definitely existed in the use of this particular nursing skill.

It was considered that the cause of this problem was lack of education and hence this study was proposed. The results as reported, of the effect the educational intervention had on the improvement in scores for posttest responses of the two groups, demonstrate that the specific educational input improved knowledge of writing nursing diagnoses.

The previous studies discussed in the literature review by Hanson et al. (1990), Johnson et al. (1989), and Bonawit et al. (1989) all concluded that nurses could be educated in their workplaces and that writing of nursing diagnoses was improved by inservice education. These studies however, all used single group research designs and as such had no control groups for comparison or confirmation of their results. This study with the experimental control group design, has reached the same

conclusion, but because of the more stringent design it can be stated that the significant result obtained is as a direct result of the educational intervention.

Inservice education is necessary for all skills in nursing, to maintain standards of care and professionalism, with an overall result that patient care will be enhanced.

LIMITATIONS OF THE STUDY:

Limitations of this study include: the small sample size (N=32); the possibly unrepresentative nature of the population (i.e. lack of random selection); and the fact that all the nurses were employed in the same hospital. It is difficult to make generalised conclusions about the larger population from such a small sample study. It is also difficult to generalise about the knowledge change over such a short period of time, just two days. Further testing at a later date, perhaps six months later, is required to see if actual learning has taken place, and if the knowledge retention rate has changed. However, the results of this study were so dramatic that it can be generalised that nurses know very little about NANDA nursing diagnoses. The results of the other variables (education, designation and experience) are not clearcut and can not be generalised to the overall population.

Though these limitations have been acknowledged, it is still considered that this study was important in adding to nursing's overall body of knowledge. Future

research could replicate this study on a larger scale and expand it to include other aspects of documentation. Such research would be significant to nursing, helping to improve overall patient care as a direct result.

IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE:

Without question an area of weakness does exist namely lack of education in nursing diagnoses, but it is not known if this is isolated to the study hospital, or if it exists in other hospitals as well. Further research needs to be undertaken on a larger scale incorporating several hospitals and other agencies outside the hospital setting to make a more generalised assessment of the overall problem. This study could be easily replicated on a larger scale with only minor changes to procedures. Future studies should place a greater significance on the educational background of nurses, and the influence that this variable has on the study. It should be attempted to include equal numbers of each education background, tertiary and hospital based, to be able to make a valid statistical analysis.

With such a significant result, proving that nursing diagnoses are written so poorly, other areas of documentation must also be investigated, as there could well be a flow on effect. Future research could be expanded to include other aspects of nursing documentation, and test the effect of education on them.

Another implication, as a result of this study, is that there should be regular assessment of the nursing

diagnostic statements written by nurses, to ascertain whether or not there has been an improvement in the level of inservice education on nursing diagnoses.

It is imperative that continuing education be given on all skills of nursing and this study serves as proof that some areas are definitely lacking. It is therefore important that more research be conducted in the effects of or lack of education in nursing.

One important area requiring research involves the legal implications of nursing diagnoses as this is an issue on which insufficient literature is available.

A final implication for future research, is an area which was deliberately avoided throughout this study, the effect of individual nurses' attitudes to nursing diagnoses. It was considered that this variable would have made this study too large for this project. However any future research conducted into this subject area should investigate attitudes as they have the potential to be a major contributing influence on the way in which nurses write nursing diagnostic statements.

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Dear participant,

Since the introduction of Nursing Diagnoses into our nursing practice, there have been some nurses who have had problems writing diagnostic statements. It is perceived that one of the reasons for these problems is lack of education. The purpose of this study is to examine this perception.

The study design includes two groups: one group will receive a tutorial on the correct method for writing nursing diagnoses. Both groups will be required to answer the attached questionnaire at two intervals in time: 1. Prior to the educational intervention; and 2. Approximately one week following the educational intervention. The purpose of this design is to test the effectiveness of the educational intervention.

The attached questionnaire contains four questions relating to your nursing background and experience; ten multiple choice questions; and ten brief scenario questions, which require you to write two nursing diagnostic statements each.

Your participation would be on a purely voluntary basis. You may withdraw from the project at any time without question. If you have any questions concerning the process of this project, please do not hesitate to contact me.

Thank you for considering this project. If you wish to participate, please sign the attached consent and return it with your completed questionnaire which is to be left on the wards in the supplied box.

Yours faithfully,

Gráeme Boardley 249 1100

I (the participant) have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising I may withdraw at any time. I agree that the research data gathered for this study may be published provided my name is not used.

.....
Signature of participant. Date.

.....
Investigator. Date.

QUESTIONNAIRE

This questionnaire is designed to examine the overall skill of nurses in writing nursing diagnostic statements and is in no way a test of individual abilities. It is requested that you complete this questionnaire on your own behalf, without conferring with other study participants, to prevent contamination or bias affecting the results.

Upon completion of this questionnaire, please place it in the collection box provided in the handover room on your ward.

DEMOGRAPHIC DATA:

Please provide some background information on yourself by answering the following questions.

1. For how many years have you been practising nursing? ____

2. In which position are you currently employed (Tick appropriate response):
Clinical Nurse ()
Registered Nurse ()
Enrolled Nurse ()

3. If you are a Clinical Nurse or Registered Nurse, have you been previously employed as an Enrolled Nurse?
Yes/No.

4. Which nursing educational background do you have:
Hospital based ()
Tertiary based ()

If Hospital based, have you studied or are you currently studying for your Bachelor of Health Science (Nursing).
Yes/No.

SECTION ONE: The following ten questions are multiple choice questions, with only one correct answer. Please circle the answer you think is correct.

1. Nursing diagnosis is the final step of which phase of the nursing process?
 - a) Implementation.
 - b) Assessment.
 - c) Evaluation.
 - d) Planning.

2. A true nursing diagnostic statement consists of which of the following components?
 - a) Diagnosis, Aetiology and Manifestations.
 - b) Diagnosis and Manifestations.
 - c) Diagnosis and Aetiology.
 - d) Diagnosis, Manifestations and Expected Outcomes.

3. Which of the following is a correct nursing diagnostic statement?
 - a) Alteration in comfort related to a fractured radius.
 - b) Impaired skin integrity related to surgical incision.
 - c) Nutrition, altered: less than body requirements related to nausea and vomiting.
 - d) Sensory/perceptual alterations: Visual secondary to blindness.

4. Which of the following is a correct nursing diagnostic statement?
 - a) Anxiety related to impending surgical procedure.
 - b) Potential fluid volume deficit related to decreased oral intake.
 - c) Cardiac output decreased.
 - d) Impaired gas exchange related to pulmonary embolus.

5. Which of the following is a correct nursing diagnostic statement?

- a) Potential for hypothermia related to surgical intervention.
- b) Ineffective airway clearance related to pain.
- c) Communication impaired, verbal due to language barrier.
- d) Hopelessness related to lack of social support.

6. Which of the following is a correct nursing diagnostic statement?

- a) Potential for disuse syndrome related to paralysis.
- b) Constipation secondary to decreased fluid intake.
- c) Fatigue related to chronic pain.
- d) Ineffective coping, individual related to situational crisis.

7. Which of the following is an incorrect nursing diagnostic statement?

- a) Breathing pattern, ineffective related to anxiety.
- b) Pain related to the effects of a surgical incision.
- c) Diarrhoea related to excessive use of aperients.
- d) Potential for aspiration related to general anaesthetic.

8. Which of the following is an incorrect nursing diagnostic statement?

- a) Potential activity intolerance related to recent surgery.
- b) Skin integrity impaired, potential for: related to continuous pressure secondary to enforced bed rest.
- c) Knowledge deficit related to newly diagnosed diabetes.
- d) Fear related to hospitalisation.

9. Which of the following is an incorrect nursing diagnostic statement?

- a) Self-care deficit: Bathing/hygiene related to left sided weakness.
- b) Potential sleep pattern disturbance related to shared room.
- c) Infection, potential for: related to introduction of micro-organisms secondary to intravenous therapy.
- d) Body-image disturbance: related to physical changes secondary to mastectomy.

10. Which of the following is an incorrect nursing diagnostic statement?

- a) Denial, ineffective related to diagnosis of disease state.
- b) Fluid volume deficit related to abnormal blood loss.
- c) Home maintenance management impaired.
- d) Mobility, impaired physical related to right sided weakness.

Please move on to Section 2. The emphasis in this section is not on prioritisation, but simply on the format of the actual nursing diagnostic statement.

SECTION TWO: For each of the following brief scenarios, write two nursing diagnostic statements.

1. A 56 year old woman admitted with back pain who is for strict bed rest and 10lb traction.

2. A 23 year old man admitted to your ward for an emergency appendicectomy.

3. An 86 year old woman with a left above knee amputation, with a slightly altered mental state and partial deafness.

4. A 44 year old male asthmatic admitted with an acute attack.

5. A 68 year old man, post-op. bowel resection, with an IV, IDC, Bore drain and Naso-gastric tube insitu.

6. A 48 year old woman who was diagnosed as diabetic yesterday.

7. A 75 year old woman, with a right CVA confined to bed and incontinent of urine and faeces.

8. A 34 year old woman, immediately post-op following a hysterectomy.

9. An obese 57 year old man admitted with multiple leg ulcers.

10. A 9 year old boy post-op following a tonsillectomy, with an IV insitu.

You have now completed the questionnaire. Please place it in the collection box provided in the handover room on your ward.

A copy of the results of this study will be placed on each ward for your perusal at the completion of the overall project.

Thank you for participating in this study.

NURSING DIAGNOSIS AND THE NURSING PROCESS:

Nursing Diagnosis is the final step of the assessment phase of the nursing process. (Johnson 1989, p. 14).

COMPONENTS OF A NURSING DIAGNOSTIC STATEMENT:

A nursing diagnostic statement has two components. The actual or potential problem that the patient has and the relevant aetiology (cause) for each problem form the two parts of the statement. The two part statement is joined by the phrase 'related to'. (Andersen and Briggs, 1988; Tribulski, 1988; MacRae, 1988).

NANDA:

The North American Nursing Diagnosis Association was formed in 1982, replacing the National Conference on Nursing Diagnosis which had been naming and classifying the phenomena since 1973 (Thomas, 1987).

SAMPLE NURSING DIAGNOSTIC STATEMENTS:

Violence, potential for: self directed related to suicidal ideation.

Coping, ineffective individual related to situational crisis.

Breathing pattern, ineffective related to pain on inspiration and anxiety.

Fluid volume deficit, potential for: related to haemorrhage secondary to anticoagulant therapy.

Pain related to the effects of a surgical incision.

Diarrhoea related to excessive use of aperients.

Constipation related to decreased fluid intake and lack of exercise.

Skin integrity, alteration in: potential for related to continuous pressure secondary to enforced bed rest.

WESTERN AUSTRALIAN COLLEGE OF ADVANCED EDUCATION

School of Nursing

NEEDS AND UNMET NEEDS

NEED APPROVED NURSING DIAGNOSIS (NANDA)

SELF ESTEEM, LOVE, BELONGING SPIRITUAL

Adjustment, impaired	Noncompliance (specify)
Anxiety	Parental role conflict
Breast feeding, ineffective	Poverty
Coping defensive, role performance altered	Self esteem, chronic low
Coping, family potential for growth	Self esteem, situational low
Coping, ineffective family: compromised	-Body image disturbance
Coping, ineffective family: disabling	-Self esteem disturbance
Coping, ineffective: individual	-Role performance, altered
Decisional conflict (specify)	-Personal identity, disturbance
Denial, ineffective	Social isolation
Family process, altered	Social interaction, impaired
Health seeking behaviours (specify)	Spiritual distress (distress of the human spirit)
Hopelessness	

PROTECTION

Body Temperature, altered	Post trauma response
Hyperthermia	Thermoregulation, ineffective
Hypothermia	Uni-lateral neglect
Fear (specify)	Violence, potential for: self directed or directed at others
Injury, potential for	
-Poisoning	
-Suffocation	
-Trauma	
-Infection	

SKIN AND TISSUE INTEGRITY

Oral mucous membrane, altered
Self-care deficit: bathing/hygiene
Skin integrity, impaired
Skin integrity: impaired, potential
Tissue integrity, impaired
Tissue integrity, impaired oral mucous membrane

BODY ALIGNMENT, EXERCISE

Activity intolerance
Activity intolerance, potential
Adjustment, impaired - feeding
- bathing/hygiene
- dressing/grooming
- toileting

Fatigue

MOBILITY

Disuse syndrome, potential for
Dysreflexia
Mobility impaired: physical
Self-care deficit
- grooming
- dressing
- toileting

REST AND SLEEP

Sleep pattern disturbance

NED

APPROVED NURSING DIAGNOSIS

RELIEF FROM PAIN

Pain
Pain chronic

NUTRITION, HYDRATION

Fluid volume, excess
Fluid volume deficit, (1)
Fluid volume deficit, (2)
Fluid volume deficit, potential
Nutrition, altered: less than body requirements
Nutrition, altered: more than body requirements
Nutrition, altered: potential for more than body requirements
Self care deficit, feeding
Swallowing impaired

ELIMINATION

Constipation
Diarrhoea
Incontinence, Bowel
Incontinence, Functional
Incontinence, Reflex
Incontinence, Stress
Incontinence, Total
Incontinence, Urge
Self care deficit, toileting
Urinary elimination, altered patterns
Urinary retention

OXYGEN, CIRCULATION

Airway clearance, ineffective
Aspiration, potential for
Breathing pattern, ineffective
Cardiac output, decreased
Gas exchange, impaired
Suffocation, potential for
Tissue perfusion, altered (specify type)
cerebral, cardiopulmonary, renal,
gastrointestinal, peripheral

STIMULATION, LEARNING

Communication impaired verbal
Diversional activity deficit
Growth and development, altered
Health maintenance altered
Home maintenance management, impaired
Knowledge deficit (specify)
Parenting, altered
Parenting, altered potential
Sensory-perceptual alteration: visual,
auditory, kinesthetic, gustatory,
tactile, olfactory
Thought processes, altered

SEXUALITY

Rape trauma syndrome
Rape trauma syndrome: compound reaction
Rape trauma syndrome: silent reaction
Sexual dysfunction
Sexuality patterns, altered

ACCEPTING LOSS AND DEATH

Grieving, anticipatory
Grieving, dysfunctional