DEVELOPING STRATEGIES FOR TEACHING NURSING DIAGNOSIS

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Nursing practice has evolved through a series of changes during the last half century. A most significant change has been in the development and use of nursing process skills, with the recent focus on nursing diagnosis. Efforts to keep practising nurses' knowledge and skills in pace with theory development has been a constant challenge to nurse educators.

Since the early 1960s, the trend in nursing practice has been to use structured problem solving or what is known as "the nursing process". Ziegler (1984) states that the nursing process is the methodology of professional nursing. Patient problems are identified and a plan of nursing care is developed. The nursing process has gradually evolved to the current five-step technique identified by Mundinger and Jauron (1975) as: assessment, nursing diagnosis, planning, implementation and evaluation. In more recent years, the focus of this process has centred on problem identification or "nursing diagnosis" (the second step of the nursing process.) This paper presents a preliminary study that looks at the teaching strategies used to develop nursing diagnostic skills.

The study investigates the work of 137 nursing students enrolled in a clinical course at the University of Victoria. It focuses on student performance skills for nursing diagnosis by looking at the structure of the nursing diagnostic statement. Comparisons are made from test study diagnostic skills to final nursing diagnosis skills in clinical practice.

Literature Review

A widely accepted definition of nursing diagnosis is credited to Mundinger and Jauron (1975): "A nursing diagnosis is a statement of a patient response which is actually or potentially unhealthful and which nursing intervention can help change in the direction of health." It is interesting to see how the definitions of nursing diagnosis have changed and evolved since the first definitions appeared in the literature in the late 1950s. The early definitions addressed the identification of nursing problems. As the concept of nursing

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The Canadian Journal of Nursing Research   *Spring 1990, 22(1), 61-69*

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diagnosis developed, the definitions became more descriptive of the scope of nursing practice. In recent years there have been attempts to include the critical thinking process involved in defining a nursing judgement or diagnosis. As a result, many of the diagnoses fall into one of two categories. Diagnosis is referred to as the process of determining the diagnosis, or it is described as the name or label that is applied to the problem (Miller, 1989, p.17).

McGee (1989) addresses both these aspects in her definition of nursing diagnosis. She gives her definition as "a label assigned to the judgement of the interpretation of date on patient status that may or may not be susceptible to nursing intervention." She goes on to state that the diagnosis may or may not include etiology. The purpose of the definition according to McGee is for documentation, communication and inquiry.

Another group of definitions addresses the types of problems that nursing diagnosis describe. The definition given by Bower (1982) is a good example of this type of definition. She states that nursing diagnosis describes the client's health problem, the clients's health needs, or both. The National Conference Groups (now NANDA) have been working since the early 1970s to identify categories of problems that should be considered to be nursing diagnoses. This group has attempted to direct and validate nursing research into specific diagnostic categories and have developed a list of nursing diagnostic categories. Their list of diagnostic labels is updated on a continuous basis (NANDA 1989).

There is a growing body of literature that addresses the formats suggested for writing a nursing diagnostic statements. Miller (1989) outlines the several different formats and gives the rationale for using a brief or complex statement structure. On the side of brevity, she argues that a useful diagnostic label should be able to convey a constellation of characteristics that are the components of the label. This increases the ease with which one can communicate a large amount of data quickly and easily. Miller further argues that the longer, more descriptive nursing diagnostic format is important at this point in the development of nursing diagnosis. She points out that the work NANDA is doing in attempting to validate nursing diagnostic labels has just begun and much more research is needed to establish the labels identified. Miller feels because the current problem names have not been investigated in many cases, there is a need to specify exactly what the problem is, what is causing it and on what symptoms that determination is based. This clarity is also important in view of the fact that the nursing diagnosis should direct the nurse in the selection of the most beneficial and effective nursing interventions. This study investigates the nurse's ability to develop clear, accurate nursing diagnostic statements that ultimately direct nursing actions. The longer, more descriptive nursing diagnostic format was chosen for instruction and investigation.

The nursing diagnostic format chosen for study and analysis is known as the P-E-S format (Gordon, 1987). In this format the problem, the etiology, and the signs and symptoms that led to determination of the problem are listed. This results in a three-part diagnostic statement. Several other formats were considered: Carnevali (1983) with a four-component structure, and Kelly (1985) with diagnosis, type, status and stimulus. However, the more popular P-E-S format was chosen because students were more likely to be familiar with it from their clinical practice. Also, the P-E-S format was the closest to the course text diagnostic statement format (Griffith-Kenney & Christensen, 1985). Griffith-Kenney and Christensen identify the assessment components of the diagnostic statement as response, system/category, and "related to" factors. These three components formed the basis of the scoring format used to evaluate student diagnostic statements (Table 2).

Project development

Clinical Studies in Nursing (Zerr 1986) is the clinical course taken in the first year of the University of Victoria nursing baccalaureate program for post-RN students. The major purpose of this course is to develop clinical skills in the application of the nursing process.

Nursing process skills for assessment and nursing care planning were illustrated on the TV knowledge network, using simulated care study presentations. Students were provided with print materials for each case presentation. The expected level of nursing process skills was illustrated, and a discussion of each step of the nursing process accompanied the case presentation.

Nursing practice skills were evaluated by regional clinical evaluators, in strategic locations around the province of British Columbia. The simulated case study approach, demonstrated on air, was followed by the evaluators when testing and evaluating student nursing process skills. Students were given a printed case study as a preliminary test of process and diagnostic skills. After successful completion of the preliminary case study and care plan, students went on to carry out a clinical study and care plan, on a selected client in their respective community. The nursing care plans and diagnostic statements were graded by the clinical evaluators, using standardized grading criteria.

Throughout successive course offerings, it became evident that certain steps of the nursing process were more difficult than others, both for clinical evaluators and for nursing students. A preliminary study of clinical evaluator scoring, for each section of the nursing process, revealed weaknesses in nursing process skills that warranted further study.

Preliminary study

A preliminary study of evaluator scoring practices was undertaken during the May-September, 1986 course. This analysis of scores assigned by clinical evaluators was originally done to give the clinical evaluators feedback on scoring practices. A case study with a nursing care plan developed by the course instructor, was graded by each of the clinical evaluators, using the course grading criteria. Evaluator grading practices were reviewed and the scores they assigned were analyzed. Table 1 illustrates the scores obtained for each section of the nursing process assignment.

Table 1

Nursing Care Plan Sections: Mean and Standard Deviation

Nursing Care Plan	Mean	SD	N	Total Possible	SD as a % of Mean
Data collection	18.3	1.81	15	21	10
Data analysis	10.42	1.19	18	12	11
Nsg. Diag.	8.2	1.77	15	11	22
Pt. Outcomes	6.89	1.35	16	10	20
Nsg. Act.	8.81	1.64	15	12	19
Evaluation	4.87	1.64	15	7	34
Summ./SOAP	5.11	0.90	18	6	18
Recording Skills	1.97	0.12	18	2	6
Roy Model	16.08	2.59	18	19	11

The purpose of this study was to give the clinical evaluator feedback on scoring practices from one evaluator to another by comparing scores assigned against the mean score of the 18 evaluators participating in the study. It was evident from the scores obtained, that there was considerable variation in the scores assigned to nursing diagnosis and evaluation. As such, I decided to study the evaluator scoring of nursing diagnosis in the next course offering, and plans for analysis of the student nursing diagnostic skills were initiated.

An evaluation of the students' nursing diagnostic skills was undertaken during the May-September, 1988 course. Students were first given a written case presentation as a preliminary test of process and diagnostic skills. The written care plan, based on the test case, was submitted to the evaluator for assessment and grading. The clinical evaluator graded the care plan and diagnostic statement, using course grading criteria. After successful completion of the test nursing care plan, the students went on to carry out a clinical care plan on a selected clinical patient in their respective community. Clinical assessment and planning was closely monitored by the regional evaluator before the student submitted the final written nursing care plan. The clinical evaluator graded the clinical care plan and diagnostic statements, using the same course grading criteria applied to the test care plan. The grading criteria and marking format used to score the diagnostic statements in the test care plan and clinical care plan have been used to score the diagnostic statements evaluated in this study. All diagnostic statements were scored. The diagnostic statement from the test care plan and from the clinical care plan that obtained the highest score, were used for analysis in the study. The test care plan statement provided the pre-test score and the clinical care plan statement provided the post-test score.

The sample

The total population consisted of 137 students enrolled in the distance course "Clinical Studies in Nursing", offered in September, 1988. Test care plan and clinical care plan were paired for the same student. A total of 95 responses were analyzed with 42 (of 137) students eliminated for lack of a complete paired data set.

Scoring of the diagnostic statement

Score out of a possible total of 5 was used as the test standard for each student. All diagnostic statements were scored. The best score obtained in the test care plan became the pre-test score. The best score obtained in the clinical care plan became the post-test score. Table 2 outlines how the diagnostic statement was scored. A bonus point was given for clear, concise direction given for nursing care. A penalty deduction of 1 point was applied for lack of clarity and consistency.

Table 2

Scoring of Diagnostic Statement

Description	Response	System Category	Related to	Bonus (+1)	Penalty(-1)
Actual Potential Possible	Increased Decreased Altered	Function Pattern Behaviour	Behaviour Etiology	Clear, concise directions to nursing care	Lack of clarity and consistency
1 point	1 point	1 point	1 point	+1 point	-1 point

Possible total 5

Analysis

Pre-test and post-test scores were first analyzed for obvious differences in each individual section or component of the diagnostic statement. The first two components, the response and system/category section (the P and E of the P-E-S format) remained relatively unchanged from pre-test score to post-test score. The component section that showed the greatest change from pre-test to post-test was the "related to" section (or the S of the P-E-S format). There was also an obvious improvement, from pre-test to post-test, in the bonus point awarded (for a clear, concise statement giving direction to nursing care). It could be concluded from the analysis of pre-test to post-test scores that the segment of the nursing diagnostic statement that showed the greatest improvement was the "related to" component. As the score improved for this component of the diagnostic statement, there was an obvious increase in the bonus point being awarded.

Results

Total test scores, pre-test to post-test, were analyzed, using the t-distribution test, for significance at a p-value lower than 0.5%. Table 3 illustrates total test score results. Results of the t-distribution test indicate that the scores achieved by these students resulted in a significant increase in total score from pre-test to post-test. This change is linked to the improved performance found in the analysis of the "related to" component of the diagnostic statement and the accompanying bonus point awarded for clarity and improved direction for nursing care.

Table 3

Total Test Score Results

	Pre-test	Post-test
Mean	3.74	4.64
Standard Deviation	1.17	0.62
Differential	0.89	1.12

N = 95; p > .05

Discussion

Results of analysis indicate significant differences in diagnostic skills from test care plan to clinical care plan. Analysis of the component parts of the diagnostic statement indicate the area of greatest change was in the "related to" segment of the statement. Improvement in this segment of the diagnostic statement resulted in greater clarity and precision to direct nursing actions.

This suggests a possible relationship between the fuller more accurate diagnostic statement and the effect this would have on the nurses choice of nursing actions. This finding warrants further investigation. As Miller (1989) has pointed out, because the current problem names (NANDA 1989) have not been adequately researched, there is a need for the nurse to specify exactly what the problem is, what is causing it, and on what symptoms that determination is based. The findings of this study support Miller's (1989) recommendation that a diagnostic statement that includes these components should direct the nurse in the selection of nursing actions.

This preliminary study is a step toward analyzing nursing diagnostic skills. The next step will be to study the relationship between the component parts of the diagnostic statement and how this relationship effects the choice of nursing actions. Long-term research is needed to study the ultimate effects on the quality of patient care.

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RÉSUMÉ

Conception de stratégies pour l'enseignement du diagnostic infirmiere

L'objectif de cette communication est de décrire une étude préliminaire sur les facultés diagnostiques du personnel infirmier. Cette étude a porté sur les travaux de 137 étudiantes en sciences infirmières inscrites à un cours clinique à l'Université de Victoria. L'étude est axée sur les aptitudes des étudiantes à porter un diagnostic infirmier en analysant la structure du diagnostic posé. On a comparé les compétences manifestées lors de l'épreuve de diagnostic aux compétences affichées en pratique clinique. Les résultats de l'analyse révèlent des différences significatives au niveau des compétences diagnostiques entre le plan de soins établi à titre d'épreuve et le plan de soins cliniques. L'analyse des éléments du diagnostic révèle que le changement le plus important s'est produit dans la section "en rapport à". Les résultats de cette étude font ressortir la relation possible entre le diagnostic plus complet et plus précis et l'effet que cela peut avoir sur le choix de l'intervention infirmière. Cette étude préliminaire marque une étape dans l'analyse des compétences diagnostiques en sciences infirmières. La prochaine étape sera l'étude du rapport entre les constituants du diagnostic et la façon dont ils affectent le choix des interventions infirmières.