

Nursing Education and Research

COMPETENCIES:-

1. Describe the characteristics of each of the educational programs for entry level nursing practice.
2. Describe the trends in nursing education that specifically relate to the issues of competency development and delivery of care.
3. Explain the basis for research and knowledge development in nursing.
4. Describe the steps in the research process.
5. Explain the responsibilities of the researcher in guarding the rights of research participants and others who assist in the research study.
6. Identify the various applications of nursing research in nursing practice.

Nursing Education and Research

Trends in nursing education and research cannot be isolated from the dynamics of nursing practice. Likewise, nursing trends are responsive to the projected changes in the delivery, organization, and financing of health care. The health care revolution occurring in the United States is spurred by the questionable effectiveness of the current system to provide access to basic health services in an efficient and cost-effective manner. Because of the lack of a unified federal and state health care policy that directs, monitors, and ensures the basic value of health, discussion about appropriate practice roles and an adequate supply of professionals is central

in the health care industry. To address these concerns, immediate shifts in traditional activities may offer solutions by developing guidelines for the optimal size of the health care work force, thus providing the nature and structure of care that guarantees access to health care for all U.S. citizens.

that question nursing's contribution to health care delivery from an educational or research perspective. Nursing as a scientific discipline and as a profession is an essential component of any delivery system that influences improved health outcomes. According to the American Nurses Association (ANA, 1995a):
Nursing has a single scope of practice that is dynamic and evolves with changes in the phenomenon of concern, knowledge about the effects of various interventions on patient or group outcomes, the political environment, legal conditions and demographic patterns in society. . . . Individual nurses engage in the total scope of nursing practice . . . dependent on their educational preparation, experience, role and the nature of the patient populations they serve.

Nursing Education :

Educational programs that prepare graduates to write a licensing examination must be approved by a state or provincial (Canada) Board of Nursing. Boards approve entry level programs to ensure the safe practice of nursing by setting minimum educational requirements and guaranteeing the graduate of the program is an eligible candidate to write a licensing examination. In the United States, candidates must pass the National Council Licensing Examination (NCLEX) to obtain a license to practice nursing. In Canada, the licensing examination is administered by the Canadian Nurses Association Testing Service (CNATS).

Types of Programs:

Two types of entry level nursing programs are available in the United States: licensed practical or vocational nurse (LPN or LVN) and registered nurse (RN). An *entry level educational program* means that the program prepares graduates to write a licensing examination. Graduates of the licensed practical/vocational programs write the NCLEX for practical nurses (NCLEXPN), and graduates of registered nurse programs

write the NCLEX for registered nurses (NCLEX-RN). Postgraduate programs prepare nurses to practice in various roles as advanced practice registered nurses (APRNs). Individual states have varying statutory provisions for APRNs. For instance, some states recognize the APRN's credentials to practice, whereas others require licensure.

Licensed Practical Nursing:

An LPN or LVN is trained in basic nursing skills to provide client care under the guidance of an RN or other licensed provider, for example, a physician or dentist. In the United States, these programs are 9 to 12 months in length and exist in a variety of settings: high schools, community colleges, vocational schools, hospitals, and other health care agencies. The Canadian equivalent to the LPN is a registered nurse's assistant (RNA). RNAs usually receive 12 months of education in a community college or hospital setting. Practical nursing programs provide the graduate with didactic learning and clinical skills to perform selected nursing skills. Once licensed, practical nurses are prepar

Registered Nursing:

Registered nurse candidates are graduates from programs that are state approved and, in many cases, accredited by national accrediting organizations. In the United States, the National League for Nursing Accrediting Commission (NLNAC) accredits nursing programs; the Canadian Association of university Schools of Nursing (CAUSN) accredits baccalaureate programs. The Commission on Collegiate Nursing Education (CCNE) was established in 1996 as an accrediting agency of the American Association of Colleges of Nursing (AACN) to evaluate the quality and integrity of baccalaureate and graduate degree nursing education programs. RNs are prepared for entry into practice typically in three ways: associate degree nursing programs, hospital diploma programs, or baccalaureate degree nursing programs.

ANA's 1965 Position Statement identified two entry levels of educational preparation: minimum preparation for professional practice, baccalaureate degree; and minimum preparation for technical practice, associate degree. Again in 1985, the ANA adopted

a resolution regarding titles: professional nurse, a nurse possessing the baccalaureate degree in nursing; and associate nurse, a nurse prepared in an associate degree program. Although AACN, CAUSN, and the professional nursing organizations in the United States (**American Nurses Association**) and Canada (**Canadian Nurses Association**) have supported the baccalaureate degree to be the minimum entry level for professional practice, the authority to enforce this requirement rests with the individual states and provinces. **CAUSN**'s mission is to promote health and wellness by advancing nursing education and nursing research.

Associate Degree : In the 1950s, Mildred L. Montag introduced the blueprint for associate degree nursing programs in response to the nursing shortage that followed World War II. Montag envisioned the associate degree graduate as a technical nurse who would work under the supervision of a professional nurse. Associate degree programs are typically 2 years in length and are located in community colleges but may be found as options at 4-year degree granting universities. Program content in associate degree programs has reflected basic skill preparation and has traditionally emphasized clinical practice in a hospital setting. However, because of the decreasing demand for hospital beds, these students are likely to spend more clinical education hours in community-based institutions (ambulatory settings, schools, and clinics).

Diploma Programs:

Nursing education began in hospital-based diploma programs established by Florence Nightingale. The first program to train women in nursing was established in 1860 at St. Thomas' Hospital, England. Today's hospital-based educational programs vary from 2 to 3 years in length and are often affiliated with colleges or universities. Diploma education has always been associated with providing nursing students with strong hospital-based clinical experience. With the decline in hospitalized clients, diploma programs have expanded their practice sites to include community-based services (NLN, 1996).

Baccalaureate Degree:

In the early 1900s, baccalaureate nursing programs were established in university

settings in the United States and Canada to provide the students with a liberal arts education. The typical 4 year educational preparation provides the student with a Bachelor of Science degree in nursing (BSN). The equivalent degree in Canada is a Bachelor of Science in Nursing (BScN) or a Bachelor in Nursing (BN). Most baccalaureate programs have special curricula to accommodate RNs of associate degree and diploma programs to articulate to a BSN. The major components of baccalaureate nursing education are liberal education, professional values, core competencies (critical thinking, communication, assessment, and technical skills), core knowledge and role development (AACN 1998).

Nontraditional Entry Level Programs:

Nontraditional programs provide the student with an alternative method for entry into professional nursing. Second degree programs are examples of nontraditional programs. Second degree programs build on the student's prior education and/or experience, and provide the student with several years of accelerated nursing education. According to the AACN, "these innovative models provide us with a variety of graduate education approaches for professional entry, and they need to be carefully examined and evaluated" (AACN, 1998, p. 20).

Postgraduate Programs :

During the 1970s and 1980s, nurses wanting to expand their *clinical practice* in certain areas of specialization enrolled in postgraduate, nondegree-granting programs. These programs, usually 9 to 12 months in length, include a formal course of study (didactic and clinical practice) and award a diploma or certificate on completion. The graduate, on successful completion of the program and national certification in the area of specialization (for example, midwife, neonatal nurse practitioner, and certified nurse anesthetist), can apply for recognition or licensure as an advanced practitioner with the state Board of Nursing.

Graduate Nursing Education:

The master's degree in nursing allows nurses to expand their roles: educator, administrator, or advanced practitioner. Various master's degrees in nursing are offered by educational institutions of higher learning: Master of Arts (MA), Master in Nursing (MN), and Master of Science in Nursing (MSN). The program of studies exposes the student to advanced knowledge in the humanities, sciences, nursing theory, and specialization in an area of clinical practice. Doctorate programs in nursing build on the master's preparation with emphasis on the application of research findings to clinical nursing. Doctoral programs confer a Doctorate of Science in Nursing (DSN) or Doctorate of Nursing in Science (DNSc) degree. Although many of the first doctorates in nursing were DSN or DSNc, the majority of current nursing doctorates are PhD degrees (McBride, 1999).

Advanced Practice:

practice RNs have acquired and demonstrated a knowledge base and the practical Advanced experiences to prepare them for specialization, expansion, and advancement in practice. Nursing organizations and regulatory agencies now recommend or require graduate education (master's degree) as preparation for advanced practice roles such as clinical nurse specialists, nurse anesthetists, and nurse midwives. In 1986, Lehman College of the City University of New York, in response to the need for nurses with advanced degrees, instituted a special pathway to graduate education for RNs with baccalaureate degrees in other disciplines.

Enrollments

Enrollments in schools of nursing have continued to decrease since 1995. As a result of the growing diversity of the American population, nursing students have become more diverse in terms of age, race, gender, and learning style, and nurse educators have begun to place greater emphasis on the value of diversity and cultural competence (McBride, 1999). Even with these changes in student diversity, the homogeneity of nursing remains one of the most salient features of the profession in that 86% are white women (McBride, 1999).

RESEARCH: SUBSTANTIATING THE SCIENCE OF NURSING:

Nursing is a profession characterized by educational standards, autonomy, socialization, an established knowledge base, licensure, formal entry examinations, code of ethics, technical expertise, professional standards, altruistic service, and public trust. The main characteristics of a profession are established, specialized training in a body of abstract knowledge and a collectivity of service orientation. The science of nursing knowledge is established by the same systematic, investigative process used by all science- based disciplines, the research process.

Research is a systematic method of exploring, describing, explaining, relating, or establishing the existence of a phenomenon, the factors that cause changes in the phenomenon, and how the phenomenon influences other phenomena. Nursing practice activities are substantiated as predicting valid and reliable outcomes for clients (the individual, family, group, or community) only after a body of knowledge has been established and confirmed by numerous research efforts ..

Research Process

The person conducting the research is called *researcher*, *investigator*, or *scientist*. When a researcher poses a problem or answers a question using the *scientific approach*, it is called a study, an investigation, or a research project. The people who are being studied are called *subjects* or *study participants*. Scientific research is mainly concerned with vehicles of thought defined as **concepts**. The process of developing and refining concepts is referred to as **conceptualization**.

A **construct** is an abstraction or mental representation inferred from situations, events, or behaviors.

Constructs are different from concepts in that the constructs are deliberately invented (or constructed) by researchers for a specific scientific purpose. These concepts or constructs are ideas that formulate a **theory** (a set of concepts and propositions that provide an orderly way to view phenomena). “In a theory, concepts (or constructs) are knitted together into an orderly system to explain the way in which our world and the people in it function” (Polit & Hungler, 1998, p. 22).

Nurse researchers can use one of two broad approaches to gather and analyze scientific information. **Quantitative research** involves the systematic collection of numerical information, often under conditions of considerable control, and the analysis of the information using statistical procedures; **qualitative research** involves the systematic collection and analysis of more subjective narrative materials, using procedures in which there tends to be a minimum of researcher-imposed control. (Polit & Hungler, 1998, p. 15)

See the accompanying display for a comparison of the major characteristics of quantitative and qualitative research. The scientific method requires an exact, orderly, and objective approach of acquiring knowledge. Controlled methods are used to study problems and test the **hypothesis** (statement of an asserted relationship between two or more variables).

A **variable** is anything that may differ from the norm. The two types of variables are independent and dependent.

The **independent variable** (criterion variable) is that variable that is believed to cause or influence the **dependent variable**, which is the outcome variable of interest and is the variable that is hypothesized to depend on or be caused by or predicted by the independent variable (Polit & Hungler, 1998). For example, if the question reads *to what extent does age predict recovery from surgical anesthesia relative to when perioperative instructions were first given*, the independent variable is age and the dependent variable is recovery from surgical anesthesia relative to when perioperative instructions were first given. **Value** is the variation of the variable. The values of the independent variable are actual ages of surgical clients, and the values of the dependent variable are when instructions were first given. There are multiple ways in which nurses establish the sources and the realm of knowledge about nursing, human responses, diagnoses, and treatments

MAJOR CHARACTERISTICS: QUANTITATIVE AND QUALITATIVE RESEARCH:

Quantitative Research

Hard science

Purpose: test theory
create theory

Qualitative Research

Soft science

develop sensitizing concepts,

Focus: concise and narrow
broad

Reasoning: deductive

Design: reductionist

Data collection: control, instruments
interpretation;

observation

Basic element of analysis: numbers; statistical analysis
analysis: words; individual

interpretation

Reporting of findings: generalization; objective;
uniqueness; subjective; rich

formal style narrative;
language.

Focus: complete and

Reasoning: inductive

Design: holistic

Data collection: shared

communication and

Basic element of

Reporting of findings:

expressive

STEPS IN THE RESEARCH PROCESS

- Formulating a research question or problem
- Defining the purpose of the study
- Reviewing relevant literature
- Developing a **conceptual framework** (structure that links global concepts together to form a unified whole)
- Developing research objectives, questions, and hypotheses
- Defining research variables
- Selecting a **research design** (overall plan used findings, their implications, and the limitations of the study)
- Defining the population, sample, and setting
- Conducting a pilot study
- Collecting data

- Analyzing data
- Communicating research

BSTRACT CONTENTS:

1-Title of the Study

2-Introduction of the Scientific Problem:

- Statement of the problem and purpose
- Identification of the framework

3-Methodology

- Design
- Sample size
- Identification of data analysis methods

4-Results

- Major findings
- Conclusions
- Implications for nursing
- Recommendations for further research

TYPES OF RESEARCH DESIGN

Historical: Systematic investigation of a past event using relevant sources to describe or explain the event.

Exploratory: Preliminary investigation designed to develop or refine hypotheses or to test the data collection methods

Evaluative: Systematic investigation of how well a program, practice, or policy is working

Descriptive: Investigations that have as their main objective the accurate portrayal of the characteristics of persons, groups, or situations and the frequency with which certain phenomena occur.

Experimental: Research studies in which the investigator controls (manipulates) the independent variable and randomly assigns subjects to different conditions.

Quasi-experimental: Studies that deviate from the methods of the experimental component in that subjects cannot be randomly assigned to treatment conditions even though the researcher manipulates the independent variable and exercises certain controls to enhance the internal validity of the results (Adapted from Polit, D. F., & Hungler, B. P. [1998]. *Nursing research: Principles and methods* [6th ed.]. Philadelphia: Lippincott.)

Trends in Nursing Research

The following trends in health care will have a definite impact on future nursing research.

1. Increasing numbers of doctorally prepared nurses will contribute to building and evaluating the science of nursing practice.
2. Nurse scientists will build international collaboration
3. National research priorities will establish a strong scientific base for nursing within the priorities.
4. Nurse scientists will increasingly be educated and funded in health services research as related to clinical practice guidelines for nursing care services to reduce variance in nursing practice activities.
5. Nurses working with clients on research protocols will continue to confront ethical dilemmas that balance the goals of research with those of the client and client care. The client advocacy and empowerment role will consume a larger component of nursing practice.

6. The collaborative efforts by national organizations to develop innovative systems strategies to identify the barriers and bridge the gaps around the process of adopting evidence-based practice.

Organizational Structure

All nurses should maintain membership in a nursing organization. The organizations represent the nurses to the public, to legislative bodies both state and national, to federal agencies, and to all health care facilities. Provides pertinent information about selected nursing organizations:-

National League for Nursing: (NLN)

The NLN offers accreditation services to all nursing programs through an independent subsidiary called the National League for Nursing Accrediting Commission (NLNAC).

National Association of Practical Nurse Education and Service : NAPNES,

Originally called the Association of Practical Nurse Schools, this organization was dedicated –exclusively to practical nursing. The name was changed to the National Association of Practical Nurse Education (NAPNE) in 1942. In 1945, they established an accrediting service for practical \ vocational nursing school. This service has been discontinued for some years. In 1959, the name change was changed to the National Association of Practical Nurse Education and Service.

National Federation of Licensed Practical Nurses,(NFLPN)

Was founded in 1949 by a group of LPNs who recognized that to gain status and recognition in the health field and to have a channel through which they could officially speak and act for themselves, they needed an organization of their own. The NFLPN is the official organization for LP\VNs.

American Nurses Association: (ANA)

The ANA represents registered nurses through its constituent state organizations. The ANA fosters high standards of nursing practice, promotes the economic and

general welfare of nurses in the workplace , projects a positive and realistic view of nursing.

National Council of State Boards of Nursing:- (NCSBN)

It was established in 1978 to assist member boards, collectively and individually. In 1996 , they began administration of the first large national certification examination available to LP\VNs. It is named the certification Examination for practical and Vocational nurses in Long- Term Care(CEPN- LTC), Those who pass the examination are certified in long- term care and are authorized by NAPNES to use the initials CLTC to signify their new status.

References:-

- Ellis, and Hartley,C, **Nursing in Today** World :Challenges, Issues and Trend, 1st edition, Philadelphia ,Lippincott ,2001 .
- Kozier B,G, Berman A,et.al., **Fundamentals of Nursing** , 7th Ed, New York, Pearson Education ,2004.