

Information literacy competency standards for nursing

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The Information Literacy Competency Standards for Nursing were completed and submitted to ACRL by the Health Sciences Interest Group—Information Literacy (IL) Standards for Nursing Task Force—in the spring of 2013. Preparation for the writing of the standards was based on two years of research on the information literacy needs of nursing students who are preparing for a profession in which evidence-based practice and translational research are fundamental values. This process included an extensive review of library and nursing literature, study of nursing standards used for accreditation, examining documents respected by nursing professionals and academics, as well as consultation with nursing faculty and library colleagues.

The standards directly address the information skills needed by nursing students at the associate, baccalaureate, master's and doctoral levels and are written for nursing faculty and librarians who support nursing programs and nursing students in academic settings. However, because many nursing students are also practicing nurses, the skills described in the standards can be used for continuing education in the nursing profession. The term *nurse* will be used throughout this document to describe nursing students, nursing faculty, and practicing nurses. The purpose of the Information Literacy Standards for Nursing is to:

- provide a framework for faculty and students of nursing at the associate, baccalaureate, master's, and doctoral levels in the development of information literacy skills for evidence-based nursing practice;

- encourage the use of a common language for nursing faculty and librarians to discuss student information-seeking skills;

- guide librarians and nursing faculty in creating learning activities that will support the growth of information literacy skills over the course of a program of nursing education and for lifelong learning;

- provide administration and curriculum committees a shared understanding of student competencies and need; and

- provide a framework for continuing education in the area of information literacy for the field of nursing practice and research.

The IL Standards are meant to be a guide and support for readers and to be fully adaptable to individual institutions and classrooms. Because translational research and evidence-based practice is the professional standard, the ability to identify an information need; find and evaluate information; assess information; use information ethically; and to use information for the purpose of best practice is at the heart of nursing education and nursing practice. To clarify the use of two important terms as they are used in this document: *translational research* is defined as "... research aimed at enhancing the adoption of best practices in the community" (AACN, The Essentials of Master's Education); and *evidence-based practice* is "the integration of best research evidence, clinical research, and patient values in making decisions about the care of individual patients (IOM, 2003)" (AACN, The Essentials of Master's Education).

The nursing standards will prove useful to nursing faculty, curriculum committees, and administration in the development of

programs to satisfy accrediting boards and to adhere to these values.

These standards for nursing are based on the “ACRL Information Competency Standards for Higher Education,” with outcomes written specifically to support nursing resources, language, and the value of evidence-based practice. The standards for nursing have been further informed by the IL Standards for Science and Engineering/Technology. Writing the outcomes has been a challenge because of the wide range of levels of nursing education from associate to doctoral levels. It has been a particular challenge to gather information and coordinate feedback from nursing librarians, whose professional membership tends to be in either the Medical Library Association or the Association of College and Research Libraries and rarely in both organizations. Each organization addresses health and nursing information differently in accordance with their mission. Many librarians are in a setting that falls within the purview of both organizations, but still have needs that are not met by either. It is the goal of this document to bridge that gap for IL competencies.

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Standard One

The information literate nurse determines the nature and extent of the information needed.

Performance Indicators

The information literate nurse:

1. Defines and articulates the need for information.

Outcomes include:

a. Identifies and/or paraphrases a research topic, or other information need such as that resulting from an assigned research project or literature review.

b. Consults with instructor/advisor for appropriateness of topic, clinical question, research project, or research question.

c. Forms a focused question by breaking it down into unique concepts to search for individually (e.g., PICO, PICOT, PICOTT).

d. Develops a hypothesis or thesis statement and formulates questions based on the information need.

e. Explores general information sources including textbooks, organizational websites, government websites, and resources of their employer, to gain background information on a topic.

f. Differentiates between general and focused topics.

g. Identifies the concepts of a research question, and then finds subject headings, limiters, and keywords that map to these concepts.

2. Identifies a variety of types and formats of potential sources for information.

Outcomes include:

a. Identifies the various disciplines publishing research on the concepts of the question (e.g., health sciences, biology, psychology).

b. Identifies the publication types in the progression from background (e.g., encyclopedia, textbooks) to foreground research (e.g., primary literature).

c. Identifies likely type of publication where appropriate information is published (e.g., popular vs. trade vs. scholarly, current vs. seminal, primary vs. secondary vs. tertiary).

d. Considers experts or other researchers as potential information resources.

e. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book, graph).

f. Recognizes that information may need to be constructed with raw data from primary sources or by primary research.

g. Recognizes that potentially useful information or data in a variety of formats may be proprietary, have limited access, or may be freely available online.

3. Has a working knowledge of the literature in nursing-related fields and how it is produced.

Outcomes include:

a. Recognizes how scientific, medical, and nursing practice information is formally and informally produced, organized, and disseminated.

b. Recognizes the primary sources of nursing: empirical/original research, conference proceedings, dissertations, technical reports, or informal online communication.

c. Recognizes the secondary sources of nursing: reviews, systematic reviews, meta-analyses, evidence summaries, or guidelines.

d. Identifies professional associations of the field and their literature.

e. Identifies sources that are specific to the field, e.g. manuals, handbooks standards, etc.

f. Recognizes that knowledge can be organized into disciplines and combinations of disciplines (multidisciplinary) that influence the way information is accessed.

g. Recognizes the value of archival information, recognizes how its use and importance may vary with each discipline, and recognizes the importance of preservation of information.

4. Considers the costs and benefits of acquiring the needed information.

Outcomes include:

a. Determines the availability of needed information and makes decisions on broadening the information-seeking process beyond locally held resources.

b. Takes advantage of continuing education opportunities to acquire new skills.

c. Formulates a realistic overall plan and timeline to acquire the needed information.

d. Recognizes that information needed may be in a foreign language and that translation may be necessary.

e. Locates research instruments (questionnaires, scales, interview guides) and identifies if they are appropriate to their populations.

f. Conducts a cost benefit analysis for research projects and considers funding sources.

g. Interprets the complexities of accessing full text and the various publishing models.

5. Re-evaluates the nature and extent of the information need.

Outcomes include:

a. Understands that research is an iterative process, and a process of discovering what research has been published on a topic to focus a research question.

b. Evaluates and refines original PICO(TT) question in relation to the literature found.

c. Points out evidence gaps in the literature.

d. Describes criteria used to make information choices.

Standard Two

The information literate nurse accesses needed information effectively and efficiently.

Performance Indicators

The information literate nurse:

1. Selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes include:

a. Recognizes where to look for research literature and other sources of evidence at each stage of the research process.

b. Investigates the scope, content, and organization of information retrieval systems.

c. Selects efficient and effective approaches for accessing the information needed from an information retrieval system.

d. Locates primary or secondary quantitative or qualitative data.

2. Constructs and implements efficient and effectively designed search strategies.

Outcomes include:

a. Formulates a strategic approach to searching the diverse resources available to address each element of the PICO(TT) question.

b. Identifies keywords, synonyms, and related terms for the information needed.

c. Identifies the differences between keyword and subject searching and articulates how to use each independently, or in combination, to complete a comprehensive search.

d. Navigates hierarchies of subject terms (e.g., MeSH and CINAHL) and utilizes scope notes, subheadings, and searching in a thesaurus.

e. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and adjacency; internal organizers, such as indexes for books).

f. Recognizes similarities and differences across user interfaces (e.g., field codes, command languages, and search parameters).

g. Develops search strategies to locate nursing theories and philosophies.

h. Implements search strategies to locate grey literature, such as conference proceedings, theses, dissertations, and white papers.

i. Follows citations and cited references to identify additional, pertinent articles.

3. Retrieves information online or in person using a variety of methods.

Outcomes include:

a. Uses various search systems to retrieve information in a variety of formats (e.g., the library catalog, general and specialized databases, and authoritative websites).

b. Uses various classification schemes and other systems to locate information resources within the library.

c. Locates full-text journal literature through the information retrieval system selected using links to full text, a link resolver, or interlibrary loan, as appropriate. Does not artificially limit to only readily available full text within the database.

d. Uses online or in-person services when assistance is needed (e.g., interlibrary loan, document delivery, librarians, library staff, primary investigators).

e. Uses surveys, letters, interviews, experiments, and other forms of inquiry to retrieve information or data, as appropriate for the research area or discipline.

4. Refines the search strategy, if necessary.

Outcomes include:

a. Uses limiters (e.g., year, population, age, English-language, geographical location, human studies).

b. Uses publication type limits to identify and locate the appropriate level of evidence within the information retrieval system (e.g., qualitative studies, reviews of literature, controlled trials, evidence-based clinical practice guidelines, meta-analyses, and systematic reviews).

c. Adjusts search strategy to access clinical opinions, research, or evidence summaries according to information need.

d. Selects appropriate subject headings from records of relevant articles to refine search statements (aka “pearl growing”).

e. Assesses the quantity, quality, accuracy, currency, and relevance of the search results and the limitations of the information retrieval

systems or investigative methods, to determine whether alternatives should be sought and utilized.

f. Identifies gaps in the information retrieved and determines if the search strategy should be revised.

g. Repeats the search using the revised strategy or new systems or methods as necessary.

5. Extracts, records, and manages the information and its sources.

Outcomes include:

a. Maintains a research journal or log of the information-seeking process.

b. Selects the most appropriate technology for the task of extracting the needed information (e.g., copying, scanning, exporting to bibliographic management software).

c. Creates a system for organizing the information utilizing file management concepts.

d. Differentiates between the types of sources cited; understands the elements and correct syntax of a citation for a wide range of resources.

e. Records all pertinent citation information for future reference.

Standard Three

The information literate nurse critically evaluates the procured information and its sources, and, as a result, decides whether or not to modify the initial query and/or seek additional sources and whether to develop a new research process.

Performance Indicators

The information literate nurse:

1. Summarizes the main ideas to be extracted from the information gathered.

Outcomes include:

a. Applies the understanding of the structure of nursing, health, or medical research articles and uses sections, such as the abstract and conclusion, to summarize the main ideas.

b. Selects main ideas from the text.

c. Identifies the elements of the question addressed, and/or restates the main ideas of the information source to address the question.

d. Identifies verbatim material that can then be appropriately quoted.

2. Selects information by articulating and applying criteria for evaluating both the information and its sources.

Outcomes include

a. Distinguishes among facts, points of view, and opinion.

b. Differentiates clinical opinion from research and evidence summaries.

c. Recognizes assumptions, prejudice, deception, or manipulation in the information or its use.

d. Considers resources from a variety of disciplines beyond nursing, including education and teaching, psychology, business, leadership and management, public health, health care administration, demographics, and social sciences.

e. Examines and compares information and evidence from various sources in order to evaluate reliability, validity, accuracy, authority, currency, and point of view or bias.

f. Recognizes the cultural, historical, physical, political, social, or other context within which the information was created, and understands the impact of context on interpreting the information.

g. Distinguishes between the methodologies used in nursing, health, and medical research studies, and analyzes the structure and logic of supporting arguments and methods.

h. Identifies gaps in the literature as research opportunities.

3. Synthesizes main ideas to construct new concepts.

Outcomes include:

a. Synthesizes divergent information to answer a research question and generalizes relative research to a related question.

b. Recognizes interrelationships among concepts and combines them into potentially useful primary statements and/or summary of findings with supporting evidence.

c. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information.

d. Utilizes computer and other technologies (e.g., spreadsheets, databases, multimedia, simulators, and audio or visual equip-

ment) for studying the interaction of ideas and other phenomena.

e. Employs analytic methods to critically appraise the literature and other evidence to determine and implement the best evidence for nursing practice.

f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to construct new concepts.

g. Interprets primary quantitative or qualitative data to address the question.

4. Compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes include:

a. Values the need for continuous improvement based on new knowledge.

b. Discriminates between valid and invalid reasons for modifying evidence-based practice.

c. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources.

d. Draws conclusions based upon information gathered.

e. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments).

f. Determines probable accuracy by questioning the source of the information, limitations of the information gathering tools or strategies, and the reasonableness of the conclusions.

g. Integrates new information with previous information or knowledge.

h. Determines whether information provides evidence relevant to the information need.

i. Includes information that is pertinent, even when it contradicts the individual's value system, being careful to maintain a neutral position.

5. Validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

Outcomes include:

- a. Participates in classroom and virtual/electronic discussions for validating, understanding, and interpreting the information.
- b. Works effectively in small groups or teams.
- c. Seeks expert opinion through a variety of mechanisms (e.g., interviews, electronic communication).
- d. Utilizes, and/or contributes to, and shares evidence of best practices with interprofessional teams, professional association discussion lists, networks, and at professional conferences.
- e. Initiates and facilitates professional discourse and discussions as a team member, mentor, practitioner, preceptor, and/or educator.

6. Determines whether the initial query should be revised.

Outcomes include:

- a. Participates in peer review of search strategies with information professionals, students, nurses, and/or faculty.
- b. Draws conclusions based on a combination of personal training and research.
- c. Determines if original information need has been satisfied or if additional information is needed.
- d. Reviews search strategy and incorporates additional concepts as necessary.
- e. Reviews information retrieval sources used and expands to include others as needed.

7. Evaluates the procured information and the entire process.

Outcomes include:

- a. Reviews and assesses the procured information and determines possible improvements in the information-seeking process.
- b. Applies the improvements to subsequent projects.

Standard Four

The information literate nurse, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:

The information literate nurse:

1. Applies new and prior information to the planning and creation of a particular product.

Outcomes include:

- a. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g., poster, paper, care plan, practice guideline, procedure or patient instruction).
- b. Articulates knowledge and skills transferred from prior experiences to planning and creating the product.
- c. Selects, analyzes, organizes, summarizes and/or synthesizes, and integrates the new and prior information, including raw data, quotations and paraphrasings, in a manner that supports the purposes of the product.
- d. Utilizes technologies to communicate, organize, collaborate, and prepare the product or performance.
- e. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context.
- f. Initiates changes in performance of patient care when information or evidence warrants evaluation of other options for improving outcomes or decreasing adverse events.
- g. Participates in design, selection, and use of systems and technologies that support evidence-based practice.
- h. Designs original research studies to address gaps in the literature.

2. Revises the development process for the product.

Outcomes include:

- a. Maintains and reviews a journal or log of activities related to the information-seeking, evaluating, and communicating process to discover potential areas to target for process improvement.
- b. Reflects on past successes, failures, and alternative strategies.
- c. Applies devised improvements to subsequent projects and activities.
- d. Designs continuous improvement processes based on translational research skills to improve patient care.

3. Communicates the product effectively to others.

Outcomes include:

a. Chooses a communication medium and format that best supports the purposes of the product or performance (e.g., written, verbal, nonverbal, and emerging technology methods) and the intended audience (e.g., peers, work groups, patients).

b. Communicates clearly and succinctly in a style that supports the purposes of the intended audience.

c. Employs principles of design in the visual display of information and data.

d. Uses information and communication technologies to advance patient education, enhance accessibility of care, analyze practice patterns, and improve health care outcomes.

e. Articulates to a variety of audiences the evidence base for practice decisions, including the credibility of sources of information and the relevance to the practice problem confronted.

f. Contributes to the scholarly conversation, moving it forward by adding individual analysis.

g. Conducts original research to produce information to address identified gaps, and publishes findings.

h. Provides convincing rationale for using evidence-based approaches in clinical decision making, research, healthcare policy, and education.

Standard Five

The information literate nurse understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:

The information literate nurse:

1. Understands many of the ethical, legal, and socio-economic issues surrounding information and information technology.

Outcomes include:

a. Identifies and discusses issues related to privacy and security in both print and electronic environments.

b. Identifies and discusses issues related to free vs. fee-based access to information.

c. Identifies and discusses issues related to censorship and freedom of speech.

d. Follows HIPAA guidelines to ensure protection of health care information.

e. Does not allow personal bias to influence acquisition or communication of health information.

f. Uses books, articles, media, and images for written or oral presentations within the scope of fair use or the permission of the owner, demonstrating understanding of intellectual property, copyright, and fair use of copyrighted material.

2. Follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

Outcomes include:

a. Uses formal conventions when engaged in electronic communication. (Includes a greeting, content written in full sentences, and suitable to a business environment.)

b. Complies with institutional policies on access to information resources.

c. Recognizes the complexities of accessing full text and the various publishing models.

d. Reads and complies with the academic integrity guidelines of the institution to which they are affiliated.

e. Complies with and teaches students and peers about concepts of academic integrity and plagiarism, and about appropriate behavior online and in the classroom.

f. Follows copyright restrictions in regard to course reserves and course management environments.

g. Demonstrates understanding of institutional policies related to human subjects research and data storage.

3. Acknowledges the use of information sources in communicating the product or performance.

Outcomes include:

a. Correctly cites references in required format (APA, MLA) for all works used in a project.

b. Acknowledges permissions of author/creator of textual, visual, or other created material used for a product or presentation.

c. Includes information about attribution in course design. *ZZ*