

## Integrating EBP into a Curriculum: Demonstrating Linear and Non-linear Relationships

**Purpose:** To implement a framework for integrating Evidence-Based Practice (EBP) into existing curricula. The framework is applicable to all levels of curricula.

**Objectives:**

1. To introduce and explain the framework for application of information literacy (IL) and EBP to nursing process (NP)
2. To identify teaching strategies for integrative application of IL/EBP/NP appropriate to each level of clinical student
3. To determine effective evaluation processes of learner outcomes

Level 1: Integrated Framework  
 Level 2: Concept Matrix  
 Level 3: Operations Matrix

**(Level 1) Purpose:** The *Integrated Process Framework* demonstrates the *linear* correlations between each of three essential process used to deliver quality nursing care to patients across settings.

<b>Integrated Process Framework</b>					
<b>Process</b>	<b>Sequential Steps:</b>				
<b>Nursing Process</b>	Assessment / Diagnosis	Planning: Outcomes Identified	Intervention	Implementation	Evaluation
<b>Information Literacy Process</b>	Identify information need	Plan & execute search	Retrieve & appraise relevant articles	Integrate new information into paradigm	Evaluate the application of Information literacy process; evaluate information utilization outcomes
<b>Evidence-Based Practice Process</b>	Develop a clinical question answerable by research	Plan & execute the literature search; retrieve relevant research studies	Appraise study to determine: (1) credibility, (2) clinical significance, & (3) applicability	Make a practice decision	Evaluate the efficacy & effectiveness of the practice decision; evaluate the application of EBP process

**(Level 2) Purpose:** The Integrated Concept Matrix demonstrates relationships among the broad concepts that support each of the sequential steps of the three key processes (NP, IL, EBP). Included in each cell in the matrix is a key for the critical thinking (CT) focus and the expected learner outcome (OC) to be mastered in level two of the overarching framework (*causal relationships*).

<b>Integrated Concept Matrix</b>		
<b>Nursing Process</b>	<b>Information Literacy Process</b>	<b>Evidence-Based Practice Process</b>
<b>Assessment / Diagnosis</b>	<b>Identification of Information Need</b>	<b>Develop researchable clinical question</b>
Physical assessment Interview / therapeutic communication Observation  CT: Appropriate questions to ask Situational assessment OC: Thorough assessment	Sense-making r/t physical assessment, interview. Therapeutic communication, observations  CT: What are related information needs? OC: Keyword identification	Research process knowledge Relationships between variables (independent, dependent, population) Nursing knowledge base Relationships between diagnosis, intervention, outcomes, and patient preferences  CT: Variable identification OC: Focused question to guide search
<b>Planning: Outcome identification</b>	<b>Plan &amp; execute search</b>	<b>Plan search &amp; retrieve relevant studies</b>
Clustering related assessment data Identifying diagnoses from data clusters Goal setting Outcome identification based on: Knowledge, clinical experience, and research Demonstrated variables Patient status change Patient preferences  CT: Variable relationships Application of nursing process OC: Targeted assessment Goal-directed action plan with measurable outcomes	Identification of search variables and synonyms Conversion to controlled vocabulary Determination of search limits Selection of appropriate bibliographic and Internet databases Execute search Retrieve identified information  CT: Keyword relationships and relevance Of strategies to question OC: Effective search strategies	Implementation of focused search Application of strategies for combining searches Execution of search and retrieval of relevant research studies Acknowledgement of role of research as practice basis for decision-making  CT: Variable relationships and search strategies OC: Effective search and retrieval of relevant research studies
<b>Intervention</b>	<b>Evaluate information identified</b>	<b>Appraise selected studies</b>
Determination of nursing interventions and activities to support outcome achievement  CT: Understanding of continuous quality improvement (CQI) OC: Recognition of effect of nursing on improved patient outcomes	Appraise information for relevance to information need Appraise information for applicability to patient preference and practice situation Identify useable information  CT: Bias-free problem solving OC: More dynamic, focused information	Identify relevant findings Appraise credibility, clinical significance, and applicability of study  CT: Bias –free problem solving OC: Improved ability to interpret research Findings and to make clinical decisions
<b>Implementation</b>	<b>Integrate information into paradigm</b>	<b>Make a practice decision</b>
Utilization of identified interventions and activities in care delivery  CT: Understanding of the processes for effective intervention delivery OC: Mastery of intervention identification and measurement	Plan practice usability and timing for integration into practice  CT: Relevance of information to meet information need OC: Information need resolved	Identify evidence-based change from appraisal process Determine whether to implement practice change or not  CT: Consider appropriateness of change within practice paradigm OC: Efficacy of approach maintained
<b>Evaluation</b>	<b>Evaluation</b>	<b>Evaluation</b>
Measurement of outcomes to determine CQI related to patient care Dissemination strategies  CT: Meaningfulness of evaluation to role and process effectiveness OC: Improved patient outcomes secondary to improved application of nursing process	Measurement of outcomes to determine effectiveness of application of (1) IL process Dissemination strategies  CT: Meaningfulness of evaluation to role and process effectiveness OC: Improved effectiveness of information use and patient outcomes secondary to application of IL process	Measurement of outcomes to determine efficacy of decision related to individual patient preferences and outcomes Measurement of EBP process Dissemination strategies  CT: Meaningfulness of evaluation to role and process effectiveness OC: Improved quality and cost effectiveness resource utilization secondary to improved application of EBP process.

**(Level 3) Purpose:** The Integrated Operations Matrix demonstrates concrete examples of activities that support the development of skills for applying nursing process, information literacy process, and evidence-based practice process. The activities facilitate skill development along a novice-to-expert continuum and can be determined based on (1) student knowledge level, (2) program objectives, and (3) learning context.

<b>Integrated Operations Matrix</b>		
<b>Nursing Process</b>	<b>Information Literacy Process</b>	<b>Evidence-Based Practice Process</b>
<b>Assessment / Diagnosis</b>	<b>Identification of Information Need</b>	<b>Develop researchable clinical question</b>
<b>Planning: Outcome identification</b>	<b>Plan &amp; execute search</b>	<b>Plan search &amp; retrieve relevant studies</b>
<b>Intervention</b>	<b>Evaluate information identified</b>	<b>Appraise selected studies</b>
<b>Implementation</b>	<b>Integrate information into paradigm</b>	<b>Make a practice decision</b>
<b>Evaluation</b>	<b>Evaluation</b>	<b>Evaluation</b>