

Rangos School Of Health Sciences Program Level Student-Learning Goals

Ph.D. in Rehabilitation Sciences Education Qualifying Exam Objectives

Students will be able to:

1. Articulate the components of a well-developed educational philosophy and theory, Describe your own educational philosophy and theory in detail using terminology acquired from educational coursework and current literature about educational pedagogy. Provide a rationale for its use and describe how it can be incorporated course content, instructional materials, and activities in a course that the student designs.
2. Discuss the learning theories that support didactic and experiential instructional methods. Apply these theories and related methods to the development of professional knowledge and practice competence.
3. Compare and critique the didactic and experiential instructional methods needed to deliver a complete curriculum in your profession. Refer to current educational literature, both theoretical and scholarly, that advocates or discusses specific instructional methods.
4. Describe and exemplify how you would apply Bloom's taxonomy of learning (see Appendix) to the following graduate course components:
 - a. a course's sequence of topics
 - b. a sequence of learning activities within a course
 - c. a comprehensive examination
 - d. a single, in-depth learning activity
 - e. measurement of outcomes for an undergraduate, discipline-specific course
 - f. measurement of outcomes for a graduate, discipline-specific course
5. Describe accommodations and adaptations for teaching a course, based on sound educational philosophy and research, given one or more of the following scenarios:
 - a. your class includes only students who have limited clinical experience
 - b. you have a student with disabilities or illnesses that may limit their ability to demonstrate professional practice competencies or didactic learning in usual or customary ways.
 - c. students are from a variety of socioeconomic and cultural backgrounds
 - d. students are noticeably stratified in terms of age and clinical experience
 - e. a course is delivered in different temporal or technological formats
6. Explain how you would ensure that content, practice skills, and philosophies for a discipline-specific course will continuously reflect evidence-based practice. In addition, you should be able to:
 - a. Reconcile your evidence-based curricular course with differences in practice that students encounter in their fieldwork or externships.
 - b. Embed knowledge competencies and research skills into a content-based curricular class that will enhance the growth of future scholar-practitioners/ researchers.
7. Apply research about testing, evaluation, and principles of measurement science to assess the quality of student learning and degree of performance/competence in a discipline-specific course. Design and provide examples of appropriate outcomes measures. Analyze the quality of measurement outcomes (test results) using both pragmatic and statistical approaches.
8. Discuss educational strategies in your areas of content expertise as an educator that will translate accreditation, certification, licensure and/or practice standards or competencies into student learning outcomes and readiness for entry-level practice.

Bloom's Taxonomy

Benjamin Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings.

Hierarchy of Competence Domains and Associated Skills

Knowledge

- observation and recall of information
- knowledge of dates, events, places
- knowledge of major ideas
- mastery of subject matter
- *Question Cues:* list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.

Comprehension

- understanding information
- grasp meaning
- translate knowledge into new context
- interpret facts, compare, contrast
- order, group, infer causes
- predict consequences
- *Question Cues:* summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend

Application

- use information
- use methods, concepts, theories in new situations
- solve problems using required skills or knowledge
- *Questions Cues:* apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover

Analysis

- seeing patterns
- organization of parts
- recognition of hidden meanings
- identification of components
- *Question Cues:* analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer

Synthesis

- use old ideas to create new ones
- generalize from given facts
- relate knowledge from several areas
- predict, draw conclusions
- *Question Cues:* combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite

Evaluation

- compare and discriminate between ideas
- assess value of theories, presentations
- make choices based on reasoned argument
- verify value of evidence
- recognize subjectivity
- *Question Cues:* assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

* From Benjamin S. Bloom *Taxonomy of educational objectives*.
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Health Science Foundation Qualifying Exam Objectives

Candidates for the Ph.D. in Rehabilitation Sciences will be able to:

Health and Rehabilitation Sciences: General

1. Demonstrate the ability to synthesize interdisciplinary information regarding the management of clinical conditions from the perspective of one's own discipline.
2. Demonstrate the ability to understand traditional and contemporary issues related to clinical problem-solving, reflective practice, and clinical reasoning.
3. Differentiate between a theory of practice and a model of practice as applied to a specific problem in health care.
4. Distinguish the purpose and relevance of major national and international organizations and agencies in your field that impact practice regulation, quality and research

Health and Rehabilitation Sciences: Discipline and Profession Specific

1. Analyze literature regarding current clinical practice using related scholarly studies within your discipline; describe inherent, contributory, or potential models underlying those practices; and summarize the strengths and/or weaknesses in those practices based on available evidence and/or logical analysis of the models.

Note: The program advisor is to inform their doctoral student regarding the practice theories and models that they expect the student to have graduate-level knowledge in order to be a contributing teacher-scholar in the student's discipline.

This information is likely to be at two levels. The first is generic or pervasive practice or content frameworks or taxonomies that a well-prepared faculty should possess as requisite knowledge to contribute in the education of future professionals in their field or for contributions to general curriculum development or scholarship. The second level is theories or models related to the specific content expertise the doctoral student plans to teach and/or study as an educator.

The program advisor will present this list of practice theories or models to the student and will serve as a guide in preparing this section of the qualifying examination.

2. Synthesize how components of the World Health Organization model and the Healthy People 2010 Initiative could be applied to management of a discipline-specific problem in your area of health care in the areas of:
 - b. Evaluation
 - c. Treatment
 - d. Case Management
 - e. Comprehensive management
 - f. Outcomes assessment
 - g. Research
3. Compare/contrast/critique aspects of various service delivery models and policies as they apply to a health care problem of your choice. Choose service delivery models from across the health care disciplines.
4. Discuss contemporary research on the causation, assessment, or clinical intervention for clinical pathology of your choice. Critique this research in terms of logical progression and or completeness. Generate a novel theory that could be tested systematically.
5. Applying the evidence-based practice approach, describe the most relevant levels-of-evidence system for the type of service or intervention being assessed (e.g., measurement technologies, diagnosis, prognosis, safety, efficacy, and effectiveness).

6. Summarize the current major sociopolitical and accreditation/certification occurring in current or future practice in your discipline and the resulting impact or influence each has on education in your discipline.

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Research Qualifying Exam Objectives

Candidates for the Ph.D. in Rehabilitation Sciences will be able to:

Critical Analysis of Research

- a. Evaluate alternative and plausible hypotheses to explain one or more study outcomes found in research.
- b. Critique the logic used to support the development of a research hypothesis found in a published research article.
- c. Critique the design of the study. Propose alternatives or modifications.
- d. Critique the procedures/methodology. Propose alternatives or modifications.
- e. Critique the statistical methods or means of analysis described in the study. Propose alternatives or modifications.
- f. Assess the adequacy of the study's controls or safeguards to minimize internal and external threats to validity.
- g. Assess the study's generalizability or the applicability of the findings to a clinical situation.
- h. Generate an overall critique of a study's actual findings and the authors' interpretation of those findings.
- i. Discuss the scholarly and clinical contribution of the study to the specified field within rehabilitation sciences

Quantitative Research

- a. Generate one or more testable hypotheses or research questions, and describe how they can be answered in a quantitative study using a group design or single subject design.
- b. Critique a scientific, problem-focused literature review detailing how this hypothesis/research question logically evolved from a research-oriented problem derived from a review of related research.
- c. Classify how the primary methods (pre-experimental, quasi-experimental and experimental), test instruments, and/or outcome measures that would be used in a study contribute or detract from the study. Review alternate methodologies and support use in comparison to other potentially usable methods.
- d. Explain the utility and application of basic statistical methodologies (e.g., parametric and nonparametric) that would be appropriate to analyze data. Critique the use of various statistical procedures. Demonstrate ability to extrapolate meaning from different statistical procedures and reports.
- e. Summarize appropriate study controls/safeguards to minimize bias and other potential threats to validity for the study described above. Specify the control, its associated threat to validity, and why the specific control is important.

Qualitative Research

- a. Generate one or more testable hypotheses or research questions, and describe how they can be answered in a study using a qualitative design.
- b. Analyze a problem-focused literature review detailing how this hypothesis/research question logically evolved from a research-oriented problem derived from a review of related research.
- c. Compare the primary methods, test instruments, and/or outcome measures that may be used in qualitative or naturalistic studies.
- d. Classify the basic methodologies that would be appropriate to analyze the data in this qualitative design. Then, select a methodology and support its use in comparison to other potentially usable methods.
- e. Summarize appropriate study controls/safeguards to minimize bias and other potential threats to validity for the qualitative study described above. Specify the control, its associated threat to validity, and why it is important in your table.

Research Methods Comparison

- a. Given a research question or problem, generalize the relative merits and contributions of a quantitative versus qualitative research design and possible contributions to rehabilitation or health sciences
- b. Justify the value of multi-method design and indicate why each is appropriate for addressing unique facets of the question.
- c. Order the continuum of research methodologies in terms of the level of evidence and the implications for knowledge in the health and rehabilitation sciences including randomized controlled clinical trials: (double-blinded and nonblinded); nonrandomized controlled clinical trials; Case series (population-based, consecutive case series, consecutive case series and nonconsecutive case series; and best case series:

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