



# SAMPLE EXAM QUESTIONS

Practice questions to prepare for  
the EDAC examination

EDAC (Evidence-based Design Accreditation and Certification) is an educational program from The Center for Health Design. The goal is not to test your knowledge of existing research, rather to teach you about a process to find and use research during design, hypothesize outcomes, gather metrics, and evaluate and report the results. The exam is administered by an outside psychometric organization.

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### Mission and Vision

The mission is to develop a community of certified industry individuals through the education and assessment of an evidence-based design process. The vision is a world where all healthcare environments are created using an evidence-based design process (EBD).

### About the Exam

The exam consists of 110 multiple-choice questions (100 scored and 10 pretest). Pretest items are not scored and are used to gather statistics for future examinations; they are scattered throughout the exam so it's important to answer all of the questions. Candidates have two hours to complete the exam and must maintain a steady pace to finish the exam. Don't linger on one question; skip the question and come back after going through the entire exam.

The exam covers the five domains contained on the Exam Content Outline, which can be downloaded from The Center for Health Design website. There are different numbers of questions for each domain with the majority of the questions coming from the research domain. All of the exam questions are derived from this outline.

### Types of Questions

**Recall:** Requires candidates to memorize facts and definitions. The correct answer does not vary.

**Application:** Requires candidates to interpret, classify, translate or recognize relationships. The correct answer varies with the situation and asks how the EBD process is applied in various scenarios or situations.

**Analysis:** Requires synthesis, problem solving, and selection of the best response. The question requires careful reading to establish the relationship between the variables in the question and the choices of the answers.

The application and analysis questions may contain several sentences that provide background information and will end with a question. **Candidates must read the question carefully** to ensure that they understand what the question is asking to avoid selecting the wrong answer based upon a misunderstanding of the question. Questions may contain key words to help the candidate select the correct answer, e.g. FIRST, MUST, BEST. There are four choices and one correct answer for each question. The other choices are distractors that may not be entirely incorrect; however, they are NOT the most appropriate or correct choice for the question.

For additional information, please visit The Center for Health Design website: [www.healthdesign.org/edac](http://www.healthdesign.org/edac)

1. A researcher on the project team wants to make sure that a new observation tool they developed has a high degree of reliability. How should the researcher ensure the observation tool is reliable?
  - a. Submit the tool to the Institutional Review Board (IRB) for review.
  - b. Test the tool in a variety of settings both within and outside the hospital.
  - c. Ask a team of researchers to validate that the tool is measuring what it's supposed to measure.
  - d. Have several researchers use the tool within a specified time frame and place, with the same subjects, and see if similar results are achieved.
  
2. Historically, most healthcare organizations have thought of the physical building as a sunk cost. As a part of the evidence-based design process, and when developing the business case, what is the physical building viewed as?
  - a. A revenue center
  - b. A strategic investment
  - c. A capital expense
  - d. A healing environment
  
3. When developing the preliminary research plan during conceptual design, what is the **PRIMARY** purpose for creating a hypothesis?
  - a. To determine the appropriate research methodology.
  - b. To identify the baseline data that needs to be collected.
  - c. To evaluate the outcomes for the various design options.
  - d. To establish a link between the design strategies and intended results.
  
4. An architectural firm is interested in conducting their own post-occupancy evaluation (POE) for a recently completed project. To increase the credibility of the findings, what should the firm do **FIRST**?
  - a. Determine which hypothesis to measure.
  - b. Conduct a pilot study to test the research tools.
  - c. Ensure there is adequate time and funding.
  - d. Hire a third-party researcher to avoid bias.
  
5. The hospital project manager is making recommendations for participants to join the interdisciplinary project team. There is disagreement about whether to include one or more vendors. What is the **MOST** appropriate recommendation?
  - a. Include vendors because they provide insight and perspective regarding selection of appropriate products to meet project goals.
  - b. Do not include vendors because it is difficult for them to maintain objectivity in selection of appropriate products to meet project goals.
  - c. Include vendors because they will offer substantial discounts on their products.
  - d. Do not include vendors because they present their own research data and influence the selection of products.
  
6. A project team is interested in reducing patient falls and increasing staff satisfaction on an existing inpatient unit. There are a variety of design changes that could be made to achieve these goals. These include the installation of a non-slip type of flooring, a decentralized nurse station layout, and handrails in the patient room. Given the **LIMITED** budget, what should the project team do **FIRST** to determine where to invest its limited resources?
  - a. Select the design feature that is most in line with the evidence-based design goals.
  - b. Review data to determine the cost of patient falls and complete a business case.
  - c. Conduct a critical review of the existing research for each option.
  - d. Mock-up a patient room that includes the proposed design features.
  
7. There is an opportunity for transformational change during a new design and construction project. Who or what group is in the **BEST** position to drive the change in culture necessary to achieve the vision for the new facility?
  - a. Physicians and nurses
  - b. Chief Executive Officer
  - c. Board of Directors
  - d. Chief Operating Officer

8. A project team wants to standardize their patient rooms. They hypothesize that the implementation of same-handed rooms will improve outcomes. When evaluating their results, what would be the **BEST** data to review that demonstrates an improvement in clinical processes?
- Length of stay reports
  - Patient satisfaction surveys
  - Medical error rates
  - Healthcare-associated infection rates
9. To address registration congestion issues, a small community hospital has concurrently used Lean and the evidence-based design process when redesigning the layout of the department. Prior to proceeding with design development, what is the **BEST** way to engage end-users to test the new process and space layout?
- Review annotated diagrams.
  - Arrange facility tours.
  - Construct mock-up environments.
  - Conduct focus groups.
10. As soon as the project scope is defined, which of the following should kick-off the research process?
- Identify research questions.
  - Conduct a literature review.
  - Document a hypothesis.
  - Establish performance metrics.
11. A team of researchers collected data on patient and family stress, patient length of stay (LOS), and overall satisfaction to compare a new observation unit with windows to an existing observation unit without windows. After collecting data, they realized the new unit included a high-tech nurse call system designed to improve patient and staff communication. Which of the following should the team do before drawing conclusions?
- Analyze the data for confounding variables.
  - Conduct focus groups with the new staff.
  - Conduct surveys with the existing staff.
  - Disregard the data and restart data collection.
12. When designing a healthcare environment using an evidence-based process, it is **MOST** important to remember which of the following?
- To evaluate and collect baseline data.
  - To include users in identifying design strategies.
  - To consider the impact of confounding variables.
  - To make the connection between design and outcomes.
13. After construction is completed, the research team is preparing to collect the post-occupancy data. What should the team do **PRIOR** to collecting the data?
- Create the research hypothesis.
  - Validate the research tools.
  - Define the performance metrics.
  - Review the business case.
14. When applying an evidence-based design process, why **MUST** the economic and social factors included in the Environment of Care (EOC) be considered when designing the physical environment?
- They affect the development of the budget.
  - They exist concurrently and influence planning.
  - They influence the results of the research.
  - They define baseline performance metrics.
15. What is the **PRIMARY** reason to review the project budget, estimated return on investment and the final design strategies developed during the design development phase?
- To validate alignment with the project's evidence-based design goals.
  - To gather and review baseline financial data to inform post-occupancy evaluations.
  - To determine the cost to conduct research after the project is completed.
  - To identify the one-time, first cost for the new capital equipment.
16. When measuring or evaluating results, various methodologies can be used. Independently they may have limitations. Which of the following describes the use of multiple methods to strengthen the validity and reliability of the research project?
- Correlation
  - Qualitative research
  - Applied research
  - Triangulation
17. In the early phases of the project, when the scope of the project has been reviewed and the team is developing the estimated budget, what should be documented to justify evidence-based design features?
- Strategic goals
  - Research methodology
  - Business case
  - Master plan

18. The experience a person has in a healthcare delivery system comes from the integration of the physical environment, people, systems-design, operational planning, design process and implementation. These are components of:
- Environment of Care.
  - Patient-centered care.
  - Strategic innovation planning.
  - Lean management principles.
19. A research team measured ambient noise levels in patient rooms while simultaneously observing patient stress levels and monitoring the duration of visits by family and friends. The team's results indicated a high degree of association between excessive ambient noise, elevated patient stress and short family visits. This is an example of which type of study?
- Retrospective
  - Correlational
  - Experimental
  - Ethnographic
20. When conducting research, what factor **MOST** impacts the choice of data collection tools?
- Pilot study outcomes
  - Available funds
  - Researcher preferences
  - Research methodology
21. When evaluating and selecting evidence-based design strategies during the schematic design phase, which of the following prioritizes these strategies?
- Originality of the design option
  - Baseline performance data
  - Potential impact on operations and costs
  - Market threat by competing organizations
22. A project team wants to make sure that the results of a patient satisfaction tool they developed within a healthcare setting have a high degree of external validity. What does external validity mean?
- The tool may be successfully used within other healthcare settings.
  - The tool generates results that are statistically significant.
  - The tool reliably measures what it is supposed to measure.
  - The tool results are generalizable to theoretical constructs.
23. Which of the following statements **BEST** defines basic (academic) research?
- Research that is published in peer-reviewed journals.
  - Research that is conducted in colleges and universities.
  - Research that is contributing knowledge and not intended for immediate application.
  - Research that is designed to account for confounding variables.
24. During the design development phase, the project team developed a number of proposed evidence-based design features. In support of their desire to conduct post-occupancy research, what **MUST** the team include in the hypotheses to properly evaluate their design features?
- Related references
  - Baseline metrics
  - Intended outcomes
  - Primary research focus
25. What **MUST** the executive team of a community health center do to establish a project vision and goals and gain insight into how design strategies will work in a real-world setting?
- Confirm the project scope with the board of directors.
  - Develop the project team structure and budget.
  - Select and engage members of an interdisciplinary project team.
  - Establish expectations for the project and team members.
26. What is the **PRIMARY** reason a project team should publish their research findings?
- To inform best practices and influence national trends.
  - To contribute to the research available to the industry for future projects.
  - To provide an opportunity for experts in their field to review their work.
  - To attract more clients and increase their competitive advantage.

27. During the design process, personnel participated in a visioning session to identify perceived problems and to develop design concepts. A literature review was conducted to see if credible evidence could be found to support the suggested improvements. The findings were discussed with the staff. What was the **PRIMARY** reason for doing this?
- To discuss existing workflow.
  - To meet union requirements.
  - To encourage support and buy-in.
  - To make an informed decision.
28. What is the **MOST** important reason to include expert experiential knowledge from an architectural firm?
- They have access to a database of resources.
  - They have access to a network of professionals.
  - They provide data on research studies.
  - They bring real life observations and insights.
29. Which of the following factors is **MOST** important when evaluating the relevance of evidence for a specific project?
- Date of publication
  - Location of study
  - Generalizability of findings
  - Reputation of researchers
30. To reduce patient falls within a hospital, a project design included installation of handrails leading from patient beds to adjoining toilet rooms. During construction, the internal wall supports were inadvertently omitted. When the omission is discovered, it is suggested that the handrails be eliminated.
- What step could the project team have taken during construction that would have **BEST** prevented this from occurring?
- Educate the construction team on the importance of specific design features.
  - Monitor construction compliance with the design and construction documents.
  - Create a patient room mock-up at the construction site that includes handrails.
  - Involve the construction manager as a member of the interdisciplinary project team.
31. Which of the following should be used to evaluate schematic design options **PRIOR** to selection?
- Environment of Care
  - Staff training plan
  - Research hypothesis
  - Activation timeline
32. As the project team begins their work, they should establish guiding principles and design guidelines that will lead to the creation of evidence-based design concepts to improve outcomes. What is the **BEST** source of information for the team to use when validating their guiding principles?
- Relevant literature
  - Experiential knowledge
  - Current healthcare regulations
  - Institute of Medicine (IOM) Report
33. A large medical center developed a corporate strategy committed to safety and sustainability. One goal is to reduce patient falls and infections. The marketing department also wants to increase the medical center's market share. Prior to functional and space programming, what is the **FIRST** thing the team should do?
- Establish outcome measures.
  - Evaluate population demographics.
  - Ensure alignment of the project vision & goals.
  - Conduct focus groups to determine needs.
34. In the early phases of the project, what should project team do **FIRST**, prior to using evidence from a published study to inform their design decisions?
- Consider whether the factors unique to the study are relevant.
  - Review the study's year of publication and the author's credentials.
  - Confirm with colleagues that they support the study's findings.
  - Review the methodology used in the study for validity.

35. The project team is advancing a collection of design options from the conceptual to schematic design phase. What should the project team do **FIRST** to prepare for the next phase?
- Prioritize areas that need further study.
  - Update the business case.
  - Conduct a pilot study.
  - Define the performance metrics.
36. What is the **PRIMARY** benefit of conducting post-occupancy research?
- Having the ability to statistically analyze performance data.
  - Gaining experiential design performance insights to inform future projects.
  - Publicly marketing positive performance results of design features.
  - Testing the effects of design features on hypothesized outcomes.
37. What is one of the **BEST** ways an evidence-based design process improves the typical project delivery approach?
- It separates capital and operating costs.
  - It reduces the need for value engineering.
  - It includes the needs and perspectives of key stakeholders.
  - It requires that more time be spent in the design phase.
38. A project team is designing a children's hospice and would like to use environmental features to support parents' communication with clinicians. A researcher has been hired to gather sensitive and private information about parents' decision making at three local hospices. Which of the following would be the best data collection method to use?
- Individual interviews
  - Unobtrusive observations
  - Focus group discussions
  - Questionnaires/electronic surveys
39. A team developed a hypothesis that stated an air filtration system operating at a specified level would reduce infection rates. At construction completion, which of the following should be referenced to verify that the system complies with the evidence-based intent?
- Construction documents
  - Industry codes and standards
  - Commissioning report
  - Final research plan
40. Why is it important for the project team members to investigate confounding variables before reporting results?
- Findings may contradict previous research.
  - Findings may falsely support or reject the initial hypothesis.
  - Findings may have been influenced by other factors.
  - Findings may not be readily applicable to new design projects.

## Study Tips

Preparing to pass the EDAC exam on the first try or getting ready to retake the exam? Here are some tips to help you succeed. Begin by reading the study guides to gain an overview of the material. Then complete the sample exam and score your results. Use this information to help you prepare a study plan. Next:

- **Focus your studying.** Review the Exam Content Outline and the five domain areas. Compare the items to the study guides. Identify what you already know and the areas you want to learn more about. If retaking the exam, review your scores for each domain and determine where to concentrate your studying.
- **Build on what you know** and add more difficult material as you proceed and keep adding to your knowledge base until you have a comprehensive understanding of all the material. Remember the exam tests about the concepts and application of the EBD process. Determine which facts are important to memorize.
- **Manage your time.** Set a test date and develop a realistic study schedule to be ready to take the test on that date.
- **Study in chunks.** Cramming is not the best way to study for this exam. According to Dartmouth Academic Skills Center, it's best to study in 30 to 50 minute sessions remembering to take breaks between sessions. The EDAC Exam Prep videos are a great way to review specific content areas. The videos cover a broad spectrum of information contained in all three study guides and are meant to be replayed during multiple study sessions.
- **Find the right place to study** that is free from distractions. Sometimes switching things up and finding alternate places to study can help enhance learning.
- **Form a study group** or find a local study group. This is a good way to get motivated and the group can share ideas and divide up responsibilities to help everyone learn. Reach out to a Steelcase Health representative or dealer to see if they are offering a study session or contact The Center for Health Design for assistance.
- **Use flashcards** or other review materials that you can carry with you and study when you have time during your busy day to help retain information. Find interesting ways (e.g., a story or other triggers) to help you remember facts and concepts.
- **Maintain a positive attitude** and visualize passing the exam. Before you take your test get a good night's sleep and remember to eat.
- **On test day – stay CALM.** If you find you are getting nervous, take a few deep breaths. During the test maintain a steady pace in order to get through the entire exam.

## Answer Key

1. d	6. c	11. a	16. d	21. c	26. b	31. a	36. d
2. b	7. b	12. d	17. c	22. a	27. d	32. a	37. c
3. d	8. c	13. b	18. a	23. c	28. d	33. c	38. a
4. d	9. c	14. b	19. b	24. c	29. c	34. a	39. c
5. a	10. a	15. a	20. d	25. c	30. b	35. a	40. c