

Topic: an article quality assessment workshop

Rationale for change: introduce students to different types of study designs and critical appraisal techniques, aiming to foster a critical mindset and promote research engagement.

Who are your learners? High school or first-year undergraduate students interested in research in oral health.

Part 1. What's Changing?

| | Current instruction offering | New instruction offering |
|---------------------|--|--|
| Learning objectives | <ul style="list-style-type: none"> Distinguish between cross-sectional, case-control, and cohort studies. Name the key questions in the critical appraisal of cohort studies. Demonstrate ability to critically appraise cohort studies following a formal checklist. Differentiate between low-quality and high-quality evidence. | <ul style="list-style-type: none"> Differentiate among case-control, cross-sectional, and cohort studies. Explain the main questions in the appraisal of case-control studies. |
| Audience | First-year medical students (~100) | Visiting college students and graduating high school seniors (~10) |
| Location | <ul style="list-style-type: none"> Four classrooms of about 25 students School of Medicine | <ul style="list-style-type: none"> One classroom School of Dentistry |
| Modality | Flipped classroom, curriculum-embedded (third of a five-class Evidence-Based Medicine series) | One-shot session. |
| Duration/Time | One hour. | One hour. |

Part 2. Existing Resources vs. Needs

| | Existing Resources | Needed Resources |
|----------------|---|---|
| People | Four teachers | One teacher |
| Technology | Projector and IT assistance | Projector and IT assistance |
| Teaching space | Four small group classrooms, with five round tables each | Unknown |
| Content | <p>Module for pre-work:</p> <ul style="list-style-type: none"> • Overview of article appraisal (text and video) • Introduction to study designs (slide deck and text) • overview of article appraisal tools for cohort studies (video and text) <p>In-person activities:</p> <ul style="list-style-type: none"> • Study design identification using real research abstracts in medicine • Full article appraisal of a cohort article using a checklist (students were asked to read it before class) | <p>Short slide deck</p> <ul style="list-style-type: none"> • Situate article appraisal in the Evidence-Based Practice cycle • Introduce the main questions article appraisal attempts to answer • Introduce a research decision tree to briefly explain study designs • Discuss characteristics of cross-sectional, case-control, and cohort studies with fictitious oral health abstracts. <p>In-person activities:</p> <ul style="list-style-type: none"> • Study design identification using research abstracts in oral health, modified for simplicity • Article appraisal (case-control studies): <ul style="list-style-type: none"> ○ Five questions only (modified checklist) ○ Half of the class reads one low risk of bias, half a high risk one <ul style="list-style-type: none"> ▪ This will allow for comparison ○ The paragraphs that would answer each of the five questions are highlighted to speed up the process |