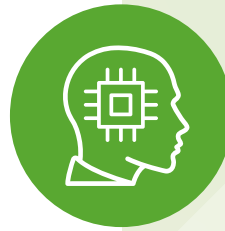Learning Science

Instructional Design Worksheet for Medical Educators

Lecturio

www.lecturio.com

This template has been designed to help medical educators and educational specialists follow the systematic instructional design process for a new or existing course based on the AVIDesign[1] model. Answering the guiding questions that are included in this template should help you systematically approach your instructional process and begin identifying certain parts of existing courses that may need adjustments. If a need for change hasn't been identified, consider starting with the evaluation step to identify areas in need of improvement. Survey current students, ask for review from fellow faculty, consider any issues in student assessment both inside and outside of the course.
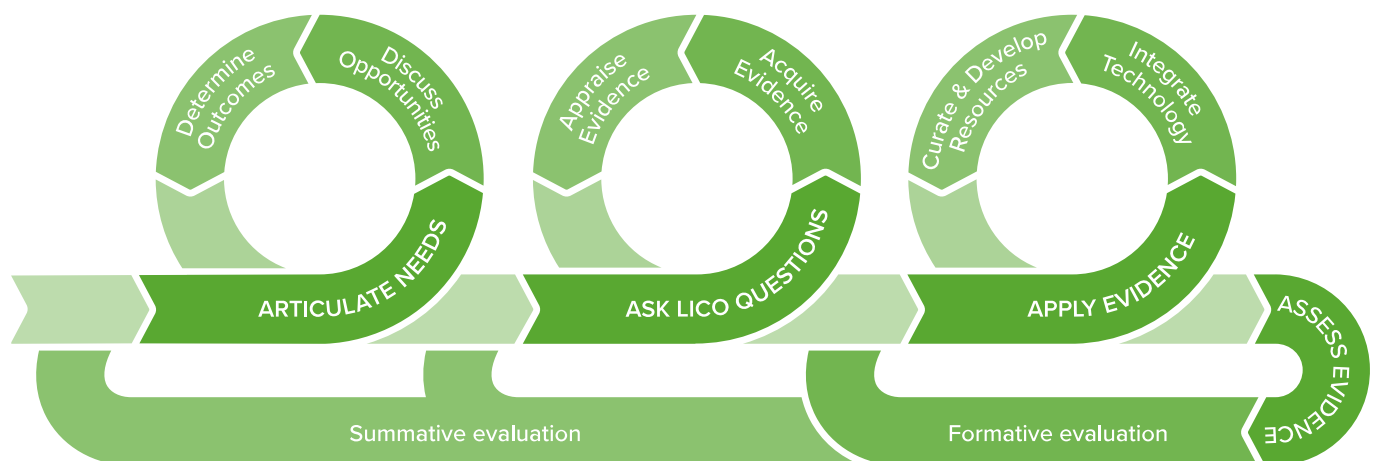
AVIDesign Model[1,2]. Incorporates agile methods with evidence-based practices to design high quality educational experiences. (Lecturio)

INSTRUCTIONAL DESIGN CONSIDERATIONS	YOUR RESPONSE

Articulate Needs: Right size the initiative

- What gap in the curriculum needs to be filled?

- Who are the learners and what do you need them to be able to do after the module/ course/ experience?

- How much time do you have for design and delivery?

Ask, Acquire & Appraise: Analyze the context

Ask LICO questions (Learners, Intervention, Context, Outcomes)

- Who are the Learners? What are their professional needs and interests? What motivates them?

- What is the desired intervention? Will it be online, synchronous?

- What is the context for learning and performance? [What materials and resources are available for learning? When, where, and how will students use this on the job?]

- What are the desired outcomes?

Acquire and Appraise the Evidence

- What does research say about the way your students learn, the desired outcome(s), and/ or your preferred instructional strategy?

- What is the strength, quality, and relevance of the research?

Design and Development

Apply the evidence

- What is your evidence? Include national/international standards and professional competencies.

- Consider all the tasks necessary to achieve the designated learning goals (if this is not well defined, consider asking an ID or ed specialist for help conducting a task analysis).

- Use measurable verbs, see Bloom's revised taxonomy[3,4].

- Do the objectives match the assessments and materials? There should not be more objectives or fewer objectives than what will be taught and assessed.

Align the assessments

- What is the delivery mode? (online, paper, MCQ, essay, performance rubric)

- Is the performance level aligned to learning objectives? (see Bloom's revised taxonomy[3,4])

- Formulate Instructional Strategy (e.g. case-based learning, flipped classroom, 5E, Gagne's 9 events)

Integrate Technology

- What technology is already available?

- Is there new technology that would make learning efficient, engaging, and effective?

- Can you get help from an expert if needed?

Create and curate materials and resources

- What resources are already available that fit your needs?

- What will need to be created?

- How will these be integrated so that they remain aligned with objectives and assessments?

Check for potential revisions. Especially for large projects, review previous steps.

- Do objectives, assessments, and materials align?

- Does your instructional strategy support your learning goals?

- Will you need assistance with technology?

Evaluation

Conduct Formative Evaluation

- Can you have fellow faculty or former students review changes or new material for you?

- Consider ways to have students provide anonymous feedback during the course.

- Take notes during/after instruction to reflect on your thoughts and impressions.

Conduct Summative Feedback

- Use student evaluations to identify need for revisions.

- Consider giving students additional surveys that may collect more information.

- Use course data to evaluate grades, engagement, etc.

- Use standardized test data (if possible) to observe effectiveness.

- If possible, get feedback on students' ability to transfer their skills and knowledge to clinical settings and patient care.

Determine the need for revision of instructional materials and delivery

- Compile the results of the formative and summative feedback.

- What area(s) have you identified that are in need of improvement?

References
1. Hirumi A. IAMSE 2021—Plenary Session: Top 10 Ways an Instructional Designer Can Help You Define the New Normal. Med Sci Educ [Internet]. 2021 Sep 17 [cited 2022 Apr 15];31(Suppl 1):9–16. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8448173/
2. Hirumi A. AVIDesign Graphic. Unpublished.
3. Conklin J. Review of A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives Complete Edition. Educ Horiz [Internet]. 2005 [cited 2022 Apr 9];83(3):154–9. Available from: https://www.jstor.org/stable/42926529
4. Su WM, Osisek PJ, Starnes B. Applying the Revised Bloom's Taxonomy to a Medical-surgical Nursing Lesson. Nurse Educ [Internet]. 2004 May [cited 2022 Apr 3];29(3):116–20. Available from: https://journals.lww.com/nurseeducatoronline/pages/articleviewer.aspx?year=2004&issue=05000&article=00010&type=Fulltext