Designing Instruction and Assessment

Time saving strategies for educators

lecturio

Today's Speaker

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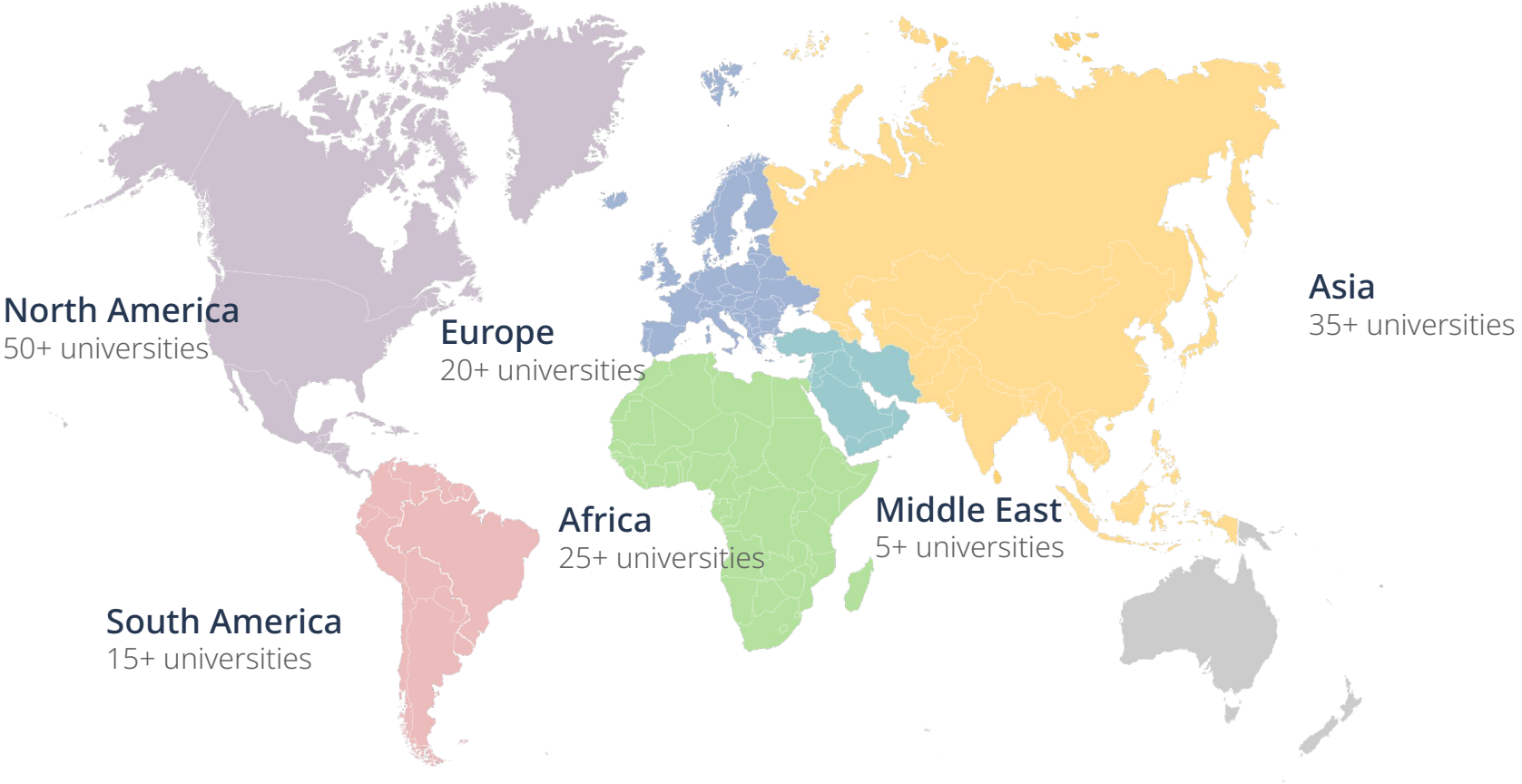
Medical Education Consultant, Lecturio


North America
50+ universities
Europe
20+ universities
Asia
35+ universities
Africa
25+ universities
Middle East
5+ universities
South America
15+ universities

Welcome to the Start Smart Educator Series!

- Enhance your teaching strategies and optimize learner success on their exams as we start the new school year.
- Download our complimentary resources, question-writing templates, and watch past webinars.
- Specifically designed for medical & nursing educators on key back-to-school topics.

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Download our complimentary Start Smart resources pack, specifically designed to help educators like you to kick off the with innovative teaching strategies.

Medical

Nursing

Today’s Agenda

1. Who are we?
2. Principles of Instructional Design
3. Assessments
4. Using Lecturio

What is Lecturio

Lecturio

comprehensive digital medical education platform

Content from top professors including from

Yale University School of Medicine

HARVARD UNIVERSITY

Stanford University

BROWN Alpert Medical School

JOHNS HOPKINS SCHOOL of MEDICINE

Lecturio Covers the Entire

Medical & Nursing

Curricula in all key learning formats

12,000+ High-End Videos
in TV quality, short, and engaging

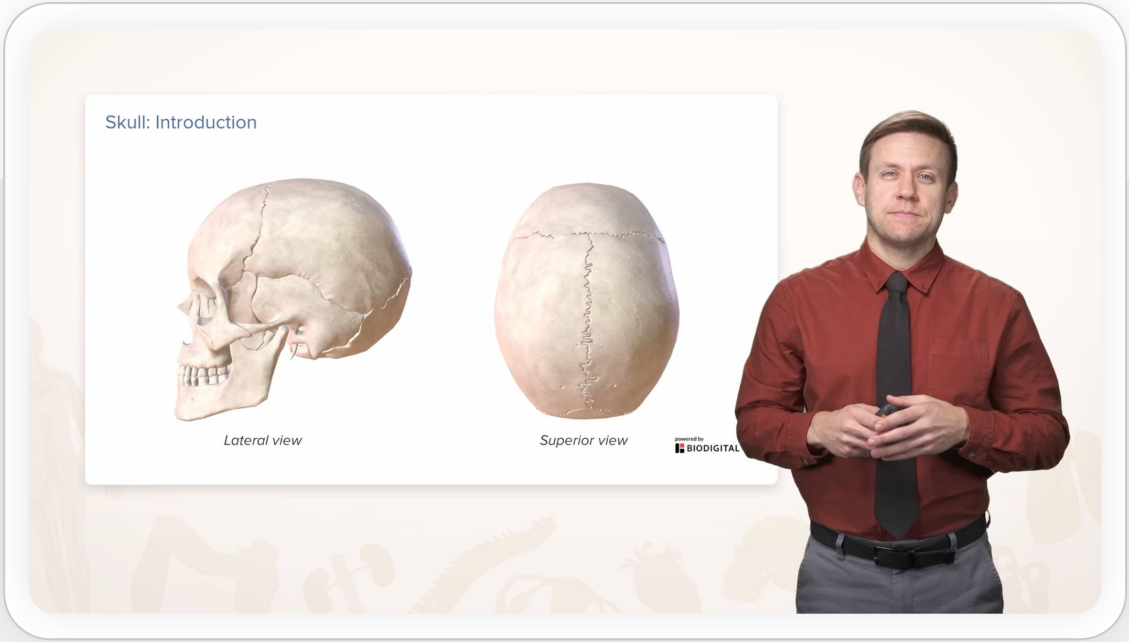
9,800+ Clinical Cases
with text and video explanations

35,000+ Recall Questions
using a spaced repetition algorithm and adaptive review

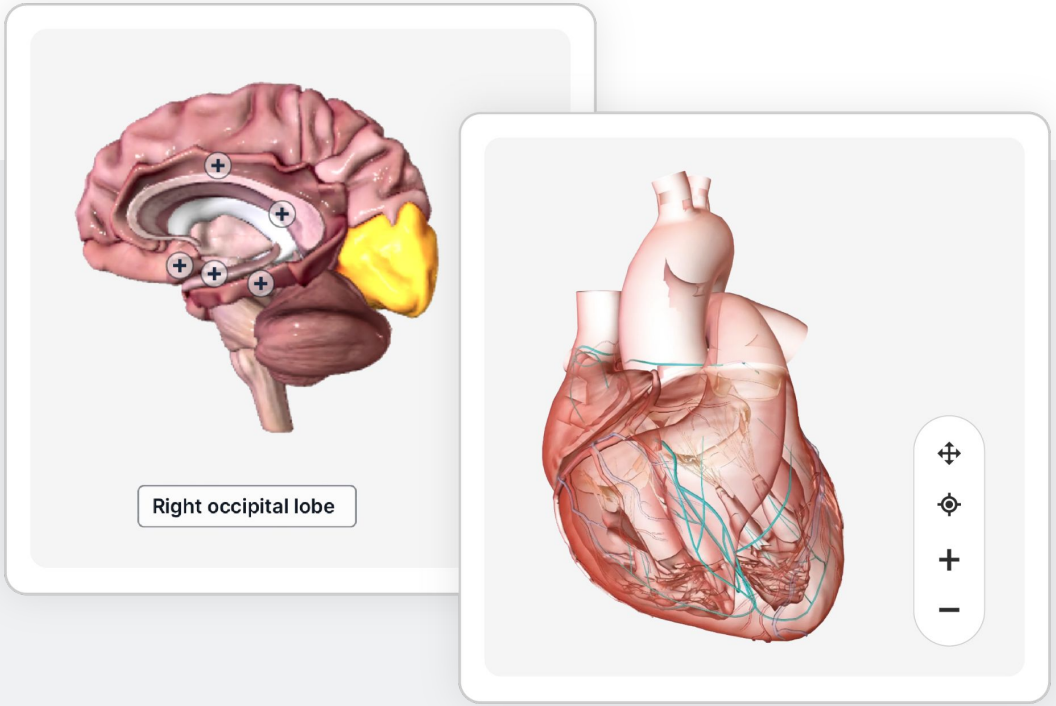
1,500+ Concept Pages
organized in a comprehensive library

Concise Videos on All Key Concepts

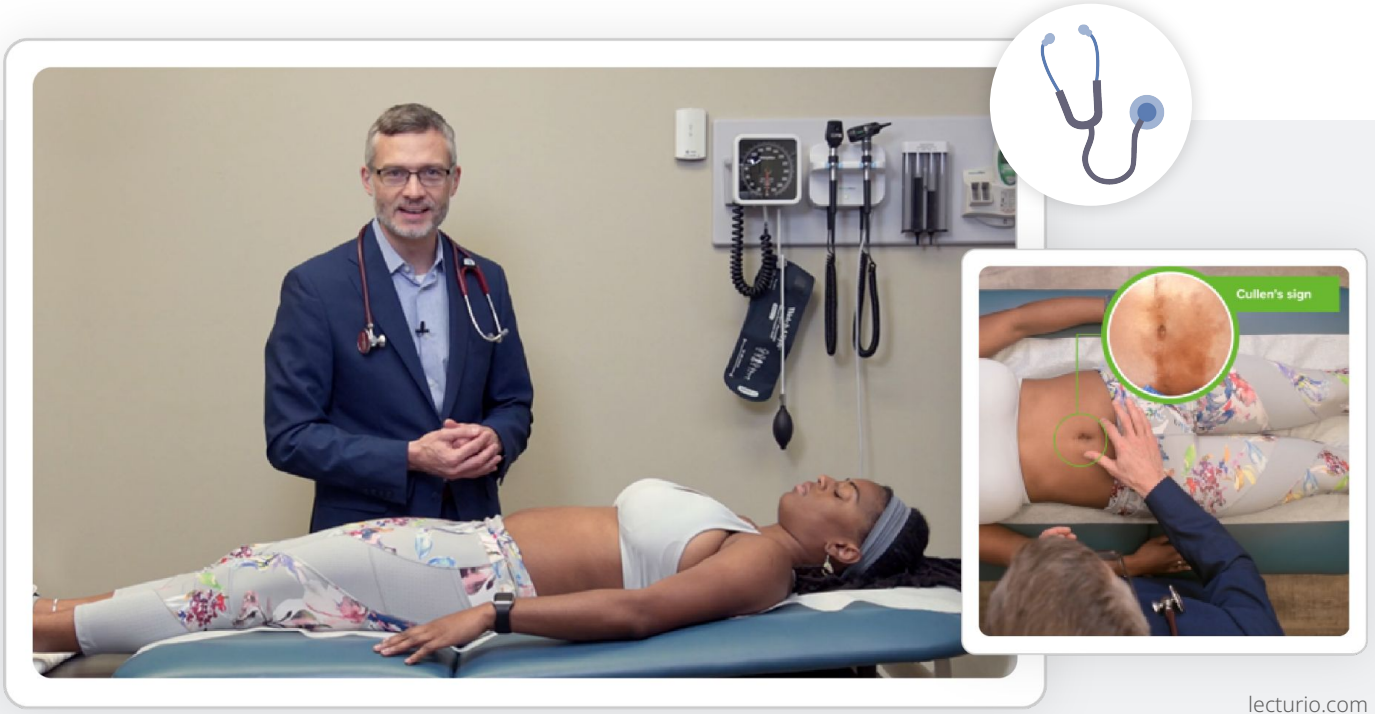
- All key medical concepts are covered in-depth
- 3-9 minutes
- Linked recall questions for formative assessment



3D Anatomy With 400 Pre-Mapped Views



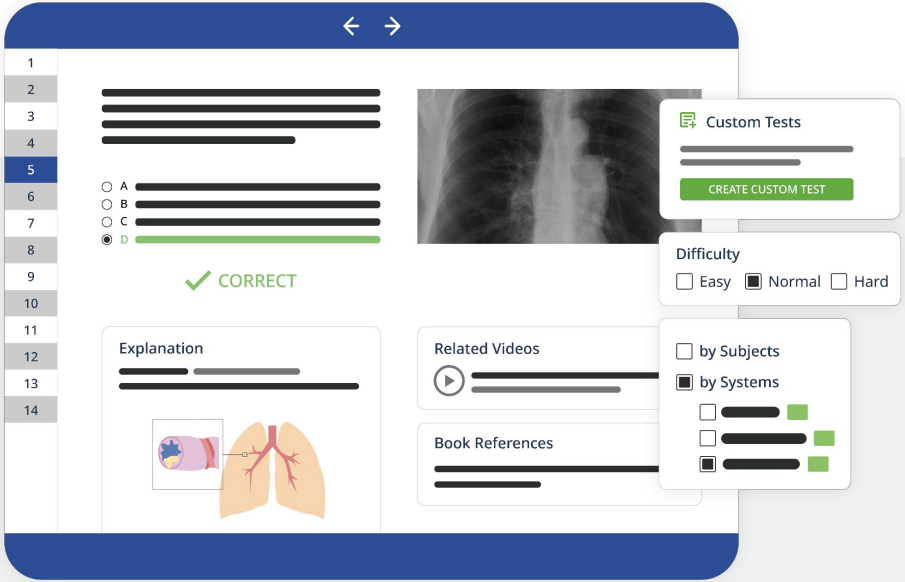
Comprehensive Coverage of Clinical Skills



Comprehensive Coverage of Clinical Skills

Clinical Cases to Practice Application of Learned Concepts

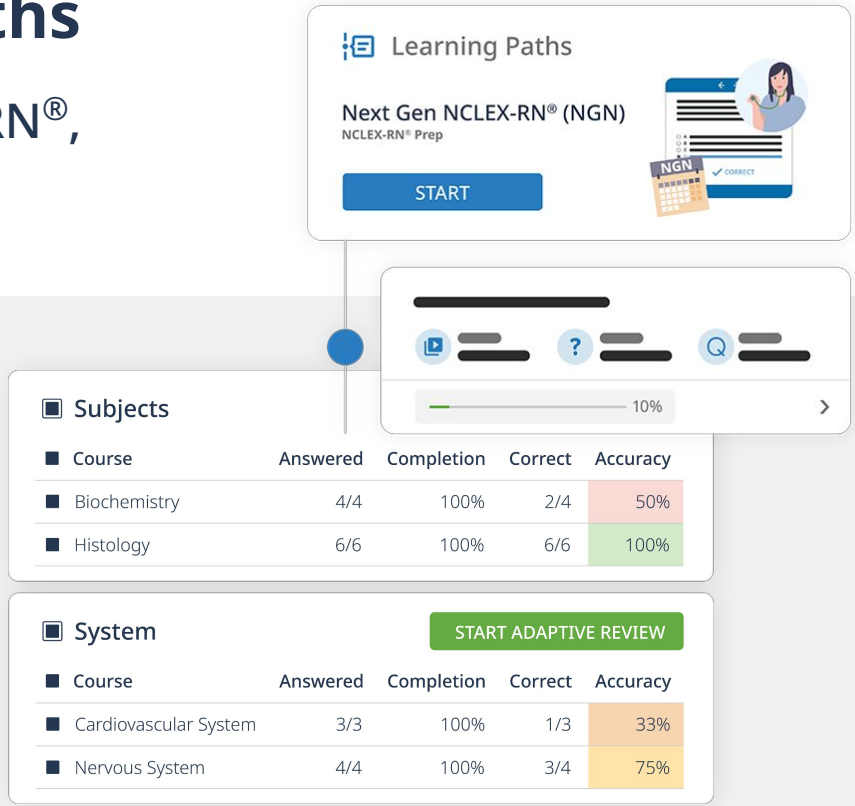
- Real-life clinical scenarios
- Automated feedback
- Linked videos
- Use for self-directed learning or exams



Detailed Learning Paths

for USMLE® Step 1, 2, NCLEX-RN®, NBME Subject Exams & More

- Learning Paths combine video and Qbank blocks
- **Adaptive review** within each path



Lecturio Concept Pages

The fastest and easiest way to find and fill knowledge gaps

Heart: Anatomy

The heart is a 4-chambered muscular pump made primarily of cardiac muscle tissue. The heart is divided into 4 chambers: 2 upper cham
receiving blood from the great vessels, known as the right and left atria, and 2 stronger lower chambers, known as the right and left ventricle
pump blood throughout the body. Blood flows through the heart in 1 direction, moving from the right side of the heart, through the lungs, a
returning to the left side of the heart, where it is pumped out to the rest of the body. As blood moves through the heart, 4 important valves
backflow. The heart muscle itself is supplied by the coronary arteries. The heart also has its own conduction system, triggering its own
contractions.

Last updated: March 10, 2023

0/10 questions correct START TEST

CONTENTS

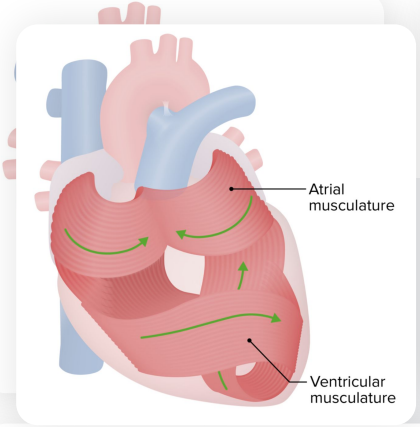
General Structure and Location of the Heart
The Pericardium
The Heart Wall
Heart Chambers and Valves
Blood Flow through the Heart
Coronary Circulation
Cardiac Conduction System
Clinical Relevance
References

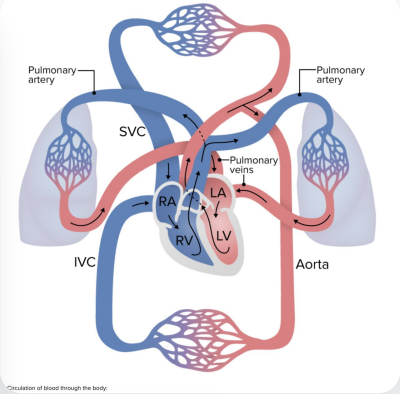
General Structure and Location of the Heart

Overview of the heart structure

The heart is a 4-chambered muscular pump made of cardiac muscle tissue.

- 4 primary muscular chambers:
  - Right atrium (RA)
  - Right ventricle (RV)
  - Left atrium (LA)
  - Left ventricle (LV)
- Connections to the great vessels:
  - Veins (bring blood back to the heart):
    - Superior and inferior vena cava (deoxygenated) → RA
    - Pulmonary veins (oxygenated) → LA
  - Arteries (carry blood away):
    - Pulmonary trunk and pulmonary arteries (deoxygenated) → from the RV
    - Aorta (oxygenated) → from the LV





Related videos

Cardiovascular System – Anatomy of the Heart

Components of the Heart – Anatomy of the Heart

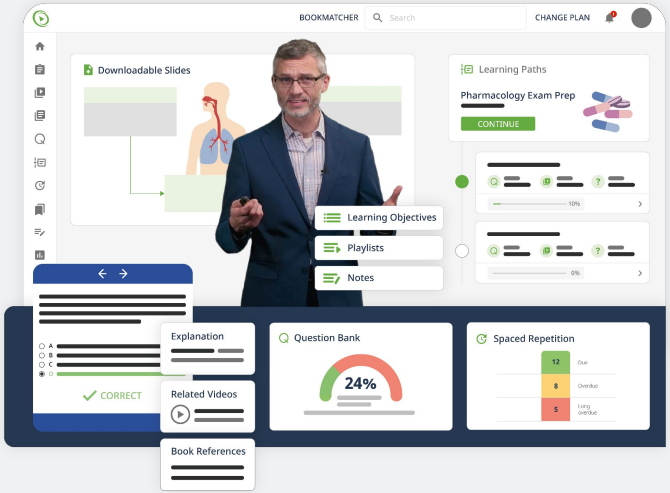
Surface Anatomy of the Heart – Heart (Cor)

The Two Sides of

Precision Health Science Teaching

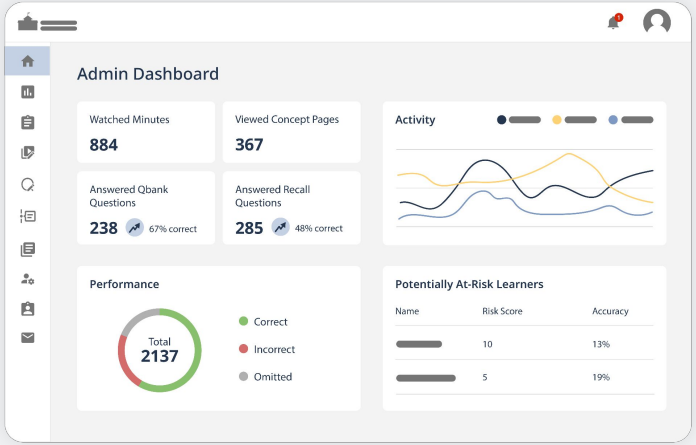
For Students

Personalized smart tutor



For Faculty

Digital teaching assistant

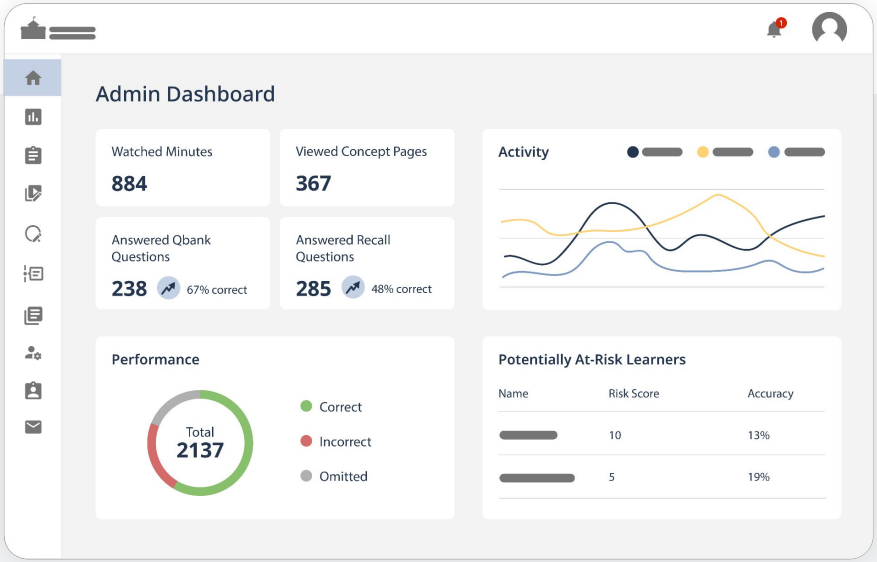


Comprehensive Tracking Enables a Comprehensive

Live Faculty Dashboard

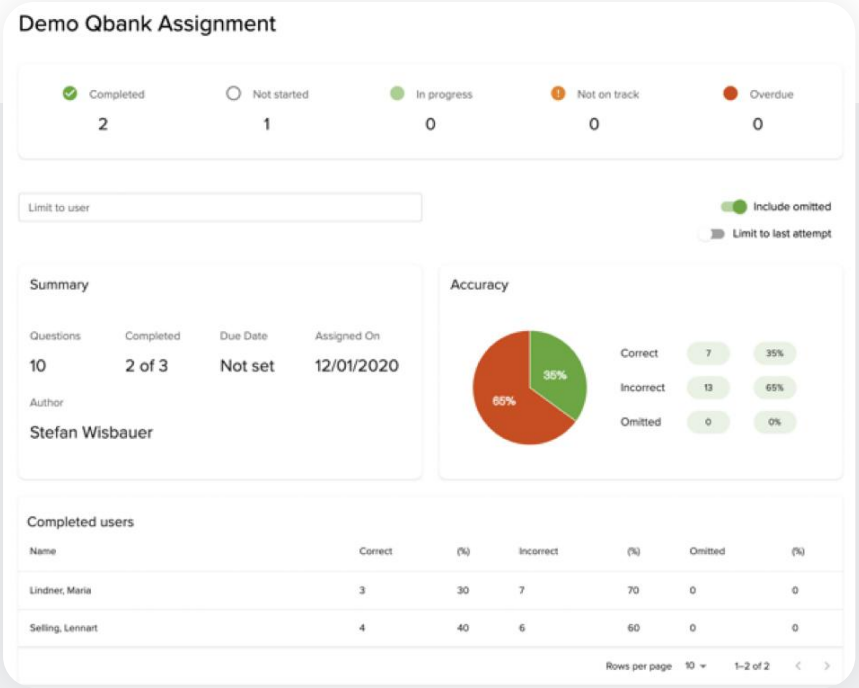
The system tracks:

- competence
- confidence
- overconfidence
- spaced repetition adherence
- mastery level
- typical mistakes
- readiness assessments



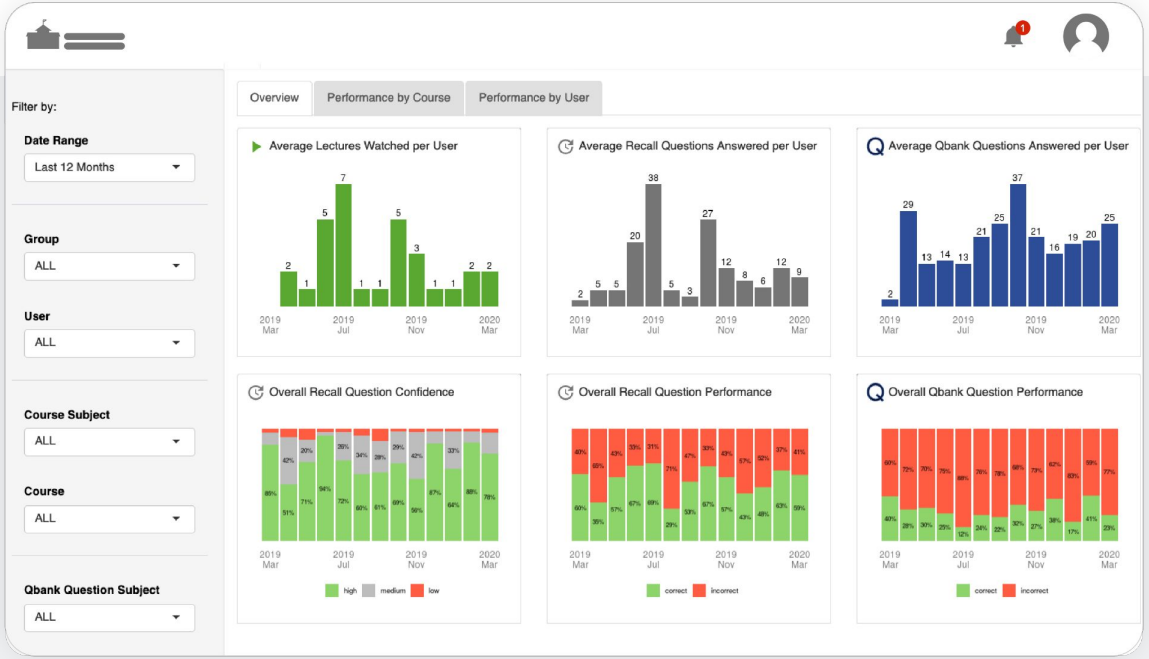
Assignment Stats

Help Focus Teaching Time on Where Students Struggle Including Typical Mistakes



Your Teaching Dashboard

Aggregate Data With Location Drill-Down on Activity, Competence, Confidence, Over-Confidence



Easy Integration With Your Existing Setup

LMS / Testing

- CANVAS
- Bb
- moodle
- SEB
- proctorio

Deep Linking
LTI SSO

Proctoring
Integrations

Session Prep:
Strengths &
Weaknesses,
Typical Mistakes

Content &
Recording
Upload

Live Teaching & Training

- Microsoft Teams
- zoom

Data Lake / Analytics

- Power BI
- R

Principles of Instructional Design

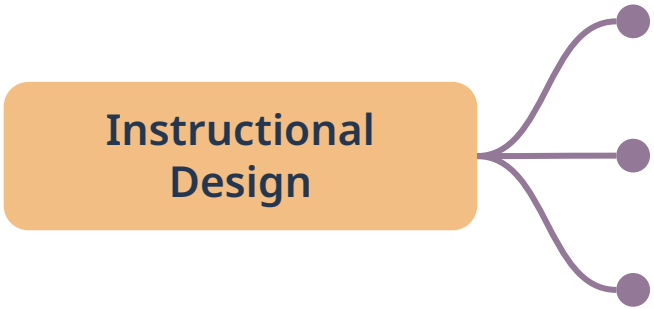
Question

What comes to your mind when we say Instructional Design?

Instructional Design

A systematic approach to developing educational experiences that optimize learning outcomes

Instructional Design



Prescribes **actions** to optimize learning outcomes

Links learning **theory** to educational **practice**

Considers every aspect of the **teaching and learning** process

Reigeluth CM. Instructional Design Theories and Models: An Overview of Their Current Status. Routledge; 1983. 494 p.

What Is the Importance of Instructional Design?

- Instructional design provides a framework for **evidence-based instruction**.
- Instructional design helps make learning more **effective, efficient, and engaging**.
- Instructional design helps ensure **alignment**
- Addresses **current issues** in medical and healthcare professions education
- Allows for **replicability, consistency,** and **transferability** of high quality resources

Instructional Design

Models

Instructional Design Models

Linear Model: ADDIE

ANALYZE

- Characterize the learners
- Identify the setting for instruction
- Determine the need for instruction

DESIGN

- Create objectives
- Determine instructional strategy
- Develop assessment instruments

DEVELOP

- Create and select instructional materials
- Plan instruction

IMPLEMENT

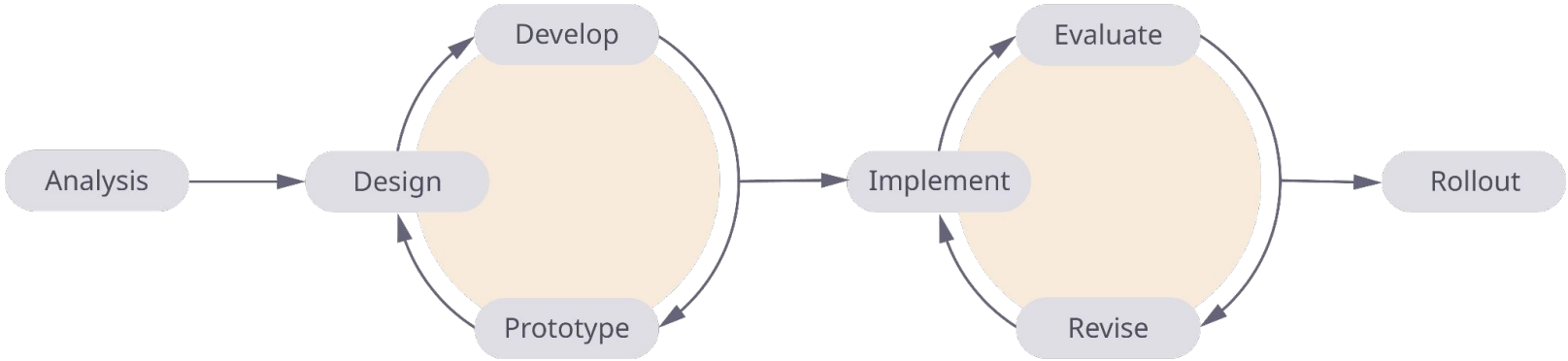
- Begin use of course materials
- Conduct formative evaluation

EVALUATE

- Conduct summative evaluation
- Gather student feedback
- Determine revisions (if needed)

Instructional Design Models

Agile Model: Successive Approximation Model (SAM)



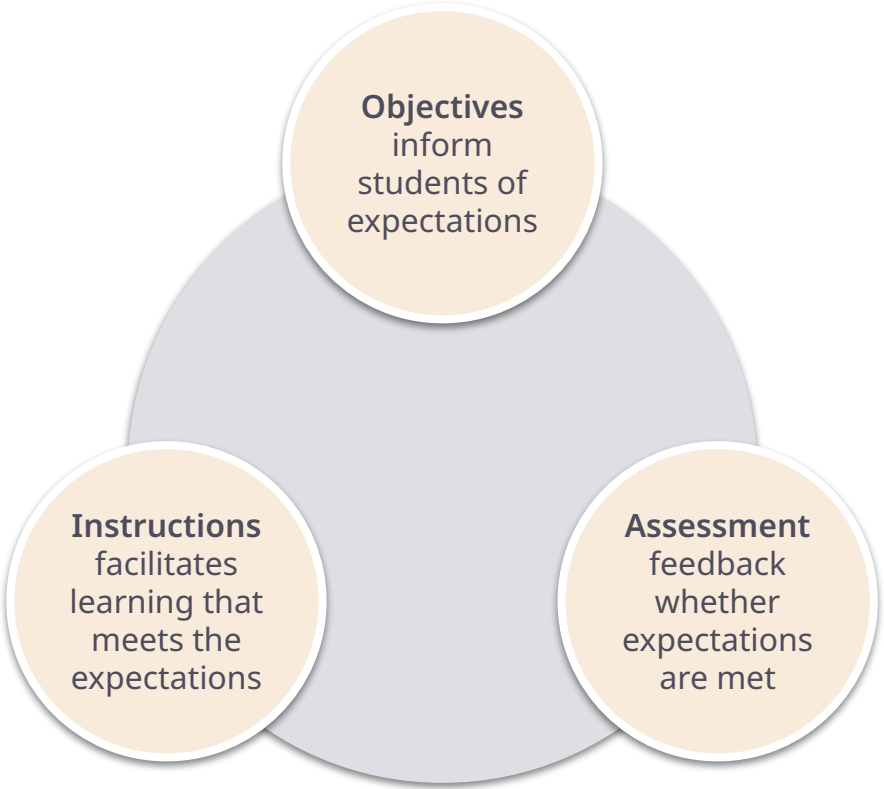
Allen MW, Sites R. Leaving ADDIE for SAM: An Agile Model for Developing the Best Learning Experiences. American Society for Training and Development; 2012. 216 p.

Instructional Design

Learning Objectives & Alignment

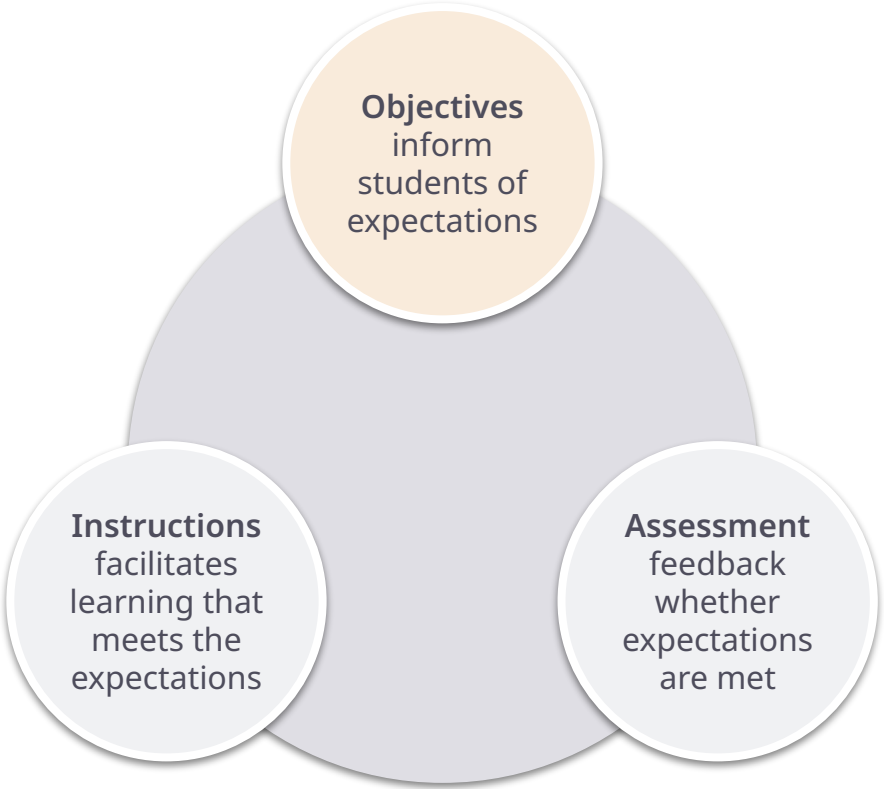
Instructional Alignment

The Golden Triangle:
Alignment of objectives, assessment, and instruction



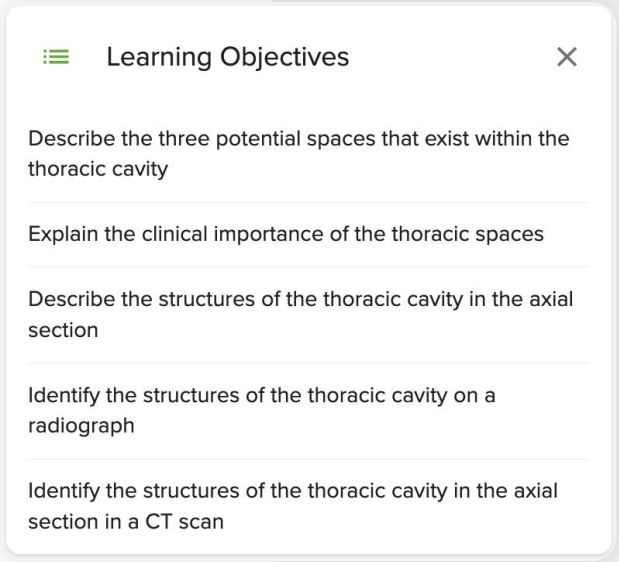
Instructional Alignment

The Golden Triangle:
Alignment of objectives, assessment, and instruction



Learning Objectives Help Educators

- **Organize** content to clarify the goals of instruction
- **Create** assessments
- **Select** materials
- **Communicate** to students what they need to know and do



1. Khan T, Hande S, Bedi S, Singh T, Kumar V. Learning Objectives: "Perfect is the Enemy of Good!" Int J User-Driven Healthc [Internet]. 2012 Jul 1 [cited 2022 Jul 29];2(3):44–62. Available from: https://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/ijudh.2012070105
2. Dick W, Carey L, Carey, James O. The Systematic Design of Instruction. 8th ed. Boston: Pearson; 2015.

ABCD Model

The ABCD model allows the development of well-defined learning objectives

A udience: Who are the learners?

B ehavior: What will they do?

C ondition: What are the resources, tools, or environment?

D egree: What determines success?

Students will describe how DNA probes can be used to detect specific nucleic acid sequences in clinical specimens at a level of detail sufficient for another student to complete the procedure.

SMART Model

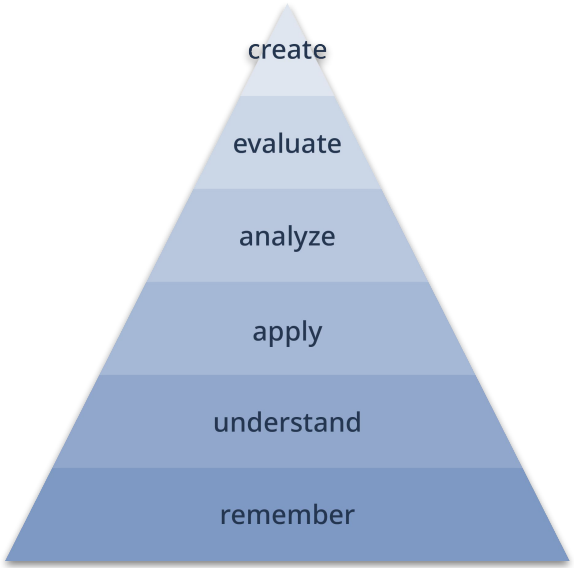
- **S** Specific
- **M** Measurable
- **A** Attainable
- **R** Relevant
- **T** Timely

1. Chatterjee D, Corral J. How to Write Well-Defined Learning Objectives. J Educ Perioper Med JEPM [Internet]. 2017 Oct 1 [cited 2022 Jul 27];19(4):E610. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5944406/

Question

Create a learning objective for a lesson based on your current role

Instructional Alignment

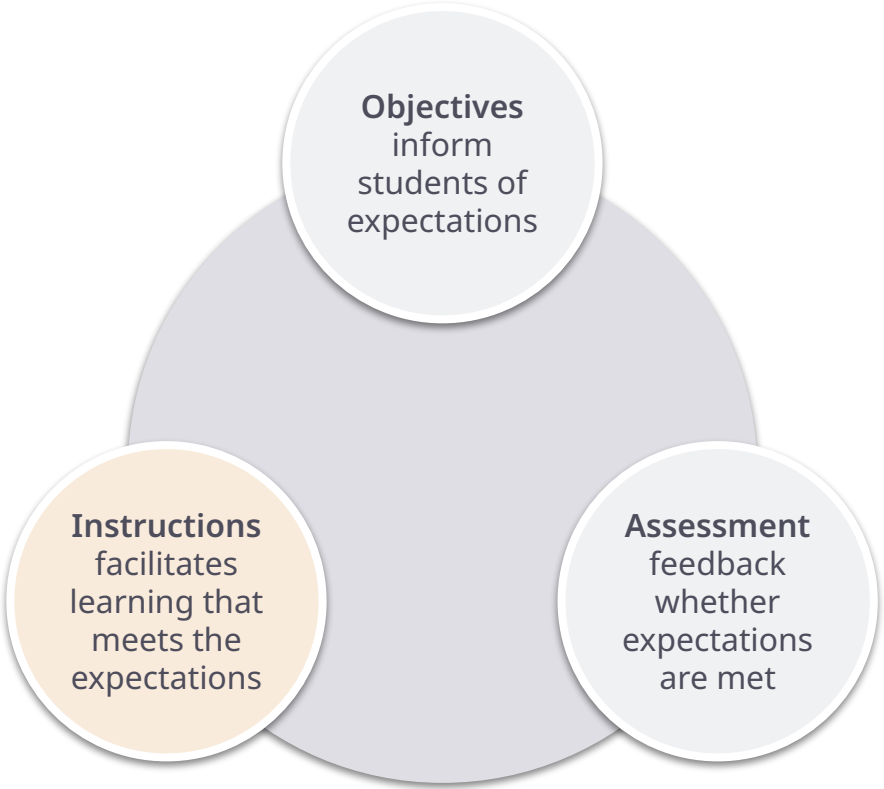


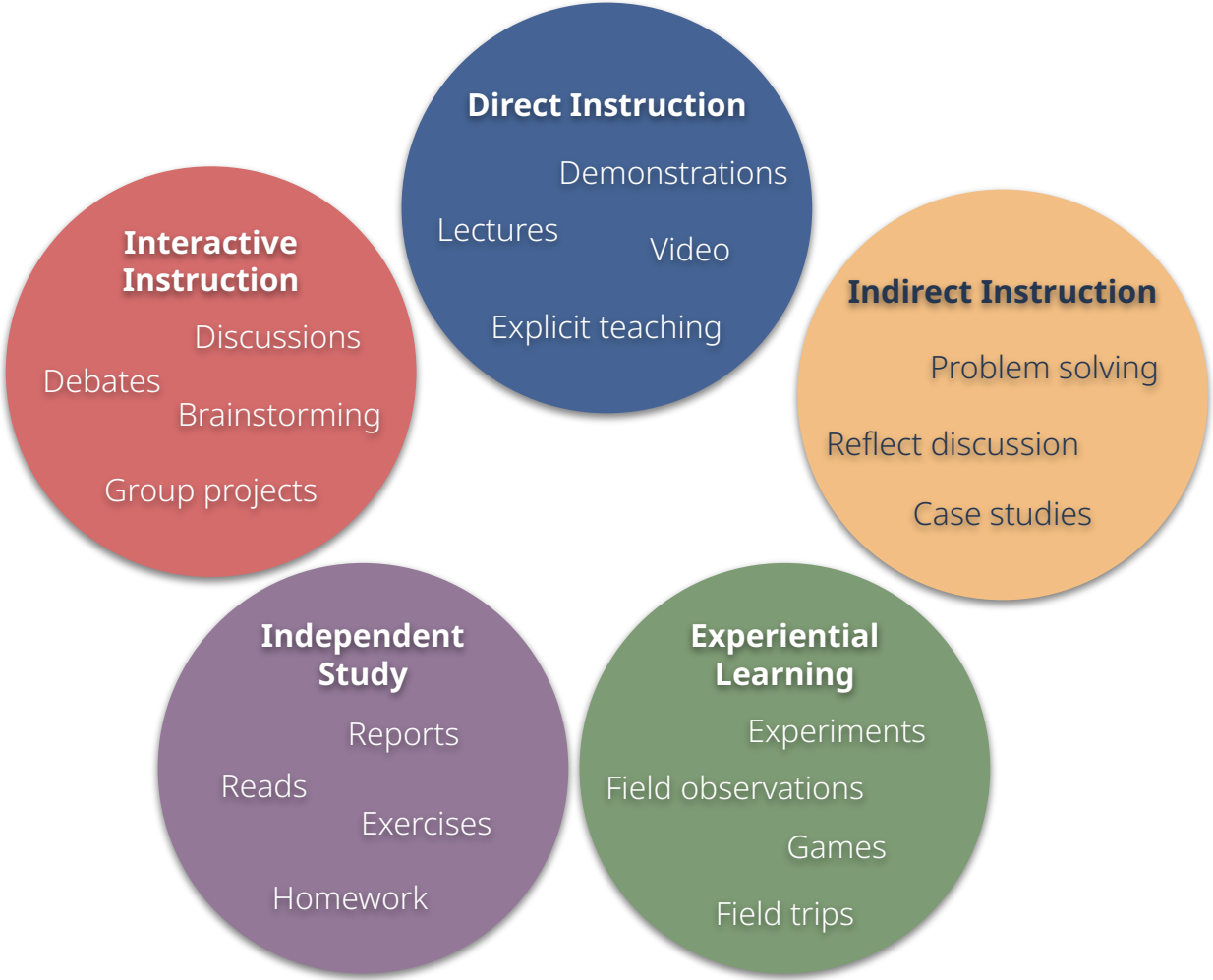
Remembering	Understanding	Applying	Analysing	Evaluating	Creating
acquire	arrange	apply	analyse	appraise	calculate
choose	categorize	calculate	appraise	argue	change
collect	change	change	break down	assess	combine
complete	chart compile	choose	classify	compare	compose
copy	conclude	classify	combine	conclude	constitute
define	convert	compute	compare	contrast	create
describe	defend	conduct	contrast	critique	derive
detect	determine	construct	criticize	decide	devise
distinguish	diagram	demonstrate	deduce	discriminate	discover
duplicate	differentiate	develop	defend	interpret	document
find	document edit	discover	detect	judge	generalize
identify	estimate	employ	differentiate	justify	modify
indicate	explain	generalize	distinguish	recommend	originate
isolate	extrapolate	manipulate	evaluate	relate	plan
label	formulate	modify	formulate	standardize	produce
list	generalize	operate	generate	validate	rearrange
mark	give example	organize	illustrate		relate
match	illustrate	predict	infer		revise
name order	interpret	prepare	outline		signify
outline place	organize	produce	paraphrase		specify
recall recognize	paraphrase	relate	plan		synthesize
reproduce select	predict	restructure	relate		tell
state underline	prepare	show	save		write
	relate	solve transfer	separate		
	summarize	use	shorten		
	update		structure		
			subdivide		

Bloom's Revised Taxonomy

Instructional Alignment

The Golden Triangle:
Alignment of objectives, assessment, and instruction




Direct Instruction
Demonstrations
Lectures
Video
Explicit teaching
Interactive Instruction
Discussions
Debates
Brainstorming
Group projects
Indirect Instruction
Problem solving
Reflect discussion
Case studies
Independent Study
Reports
Reads
Exercises
Homework
Experiential Learning
Experiments
Field observations
Games
Field trips

Question

Based on the learning objective, how will you design instruction?

Faculty Events

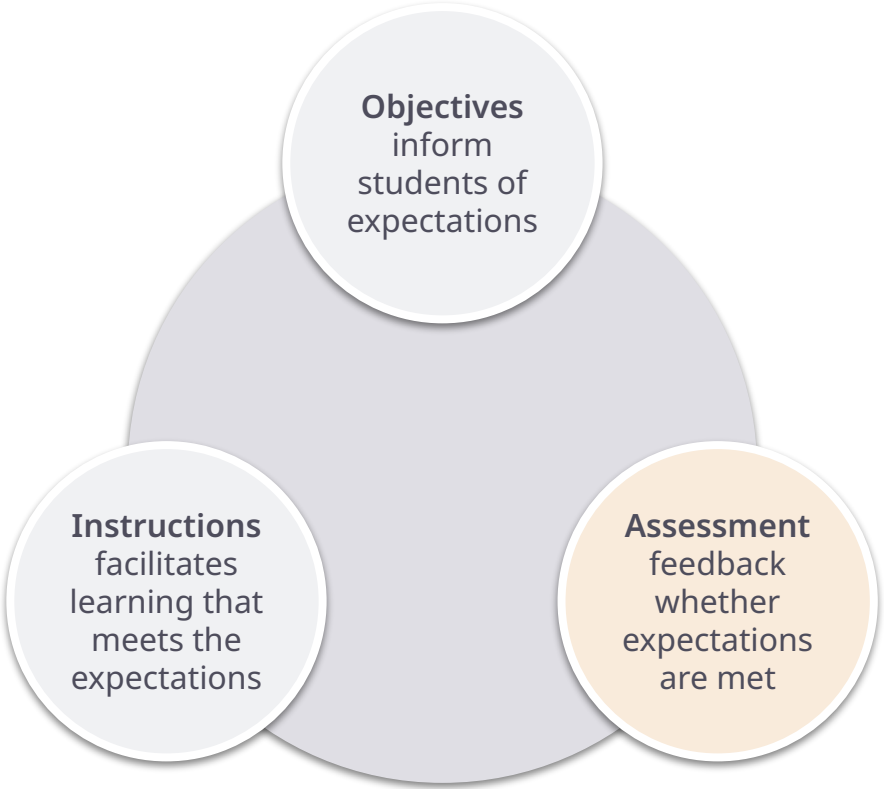
Lecturio Educator Events and Networking Opportunities

Explore Lecturio webinars and get practical recommendations on implementing effective evidence-based teaching strategies into your pedagogical practice. Every session is designed from the bottom up to meet the needs of health professions educators.

EXPLORE OUR EVENTS

Instructional Alignment

The Golden Triangle:
Alignment of objectives, assessment, and instruction



Question

Based on the learning objective, how will you assess learning?

How Alignment Works

Objective
After the lesson, students should be able to:

Assessment
After the instruction is complete, students are assessed through:

Poorly aligned

Identify the right steps for an ABG sample draw

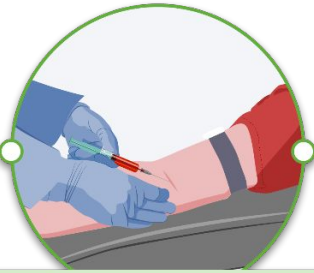
Direct observation of procedural skills exam (DOPS)

How Alignment Works

Objective
After the lesson, students should be able to:

Assessment
After the instruction is complete, students are assessed through:

Well aligned



Safely perform an ABG sample draw

Direct observation of procedural skills exam (DOPS)

Med Sci Educ. 2021 Dec; 31(Suppl 1): 9–16.
Published online 2021 Sep 17. doi: 10.1007/s40670-021-01400-0
PMCID: PMC8448173
PMID: 34567833

Journal Article

IAMSE 2021—Plenary Session: Top 10 Ways an Instructional Designer Can Help You Define the New Normal

Atsusi Hirumi

Author information · Article notes · Copyright and License information PMC Disclaimer

Abstract

Go to:

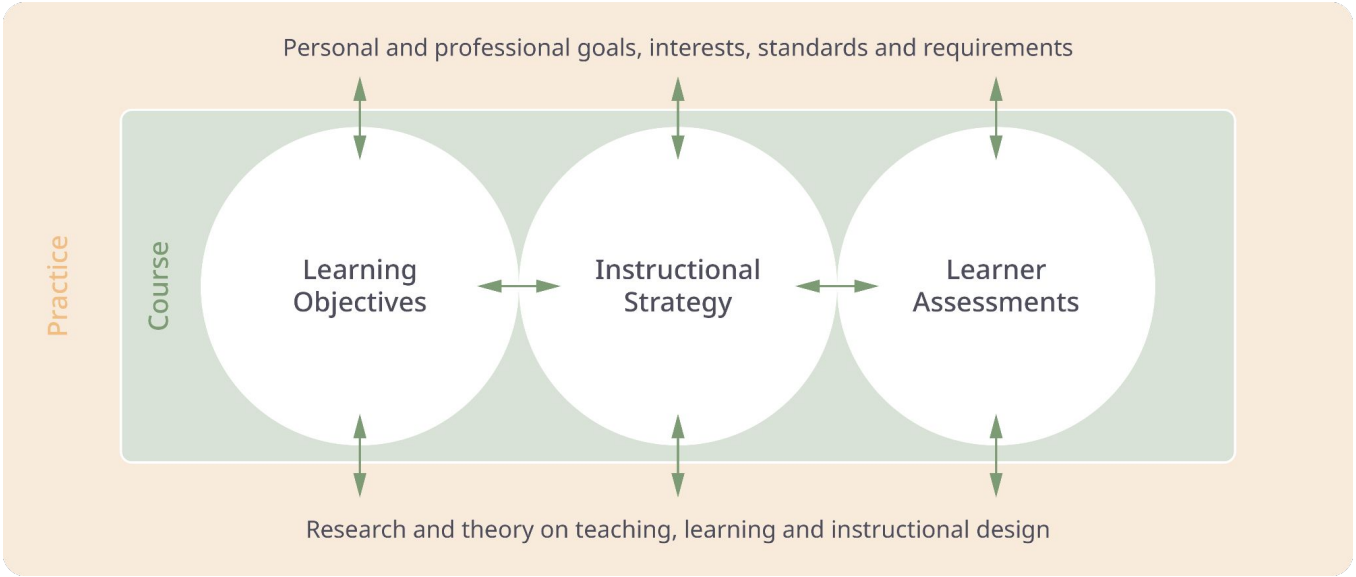
Along with the continued exponential growth of information and treatment options, healthcare practitioners must now deal with increasing documentation requirements, varying data systems, altering health plans, rising patient expectations, loss of autonomy, and demands to decrease costs while increasing revenue. Add to the complexity, the need to transform coursework and clinical experiences to address the constraints presented by COVID-19 can quickly overwhelm medical educators. Given such prodigious challenges, educational specialists with a solid understanding of learning research and theory, instructional design, and emerging technology can play a vital role in designing engaging learning experiences. In this plenary session, Dr. Atsusi "2c" Hirumi illuminated 10 ways an instructional designer may help health science educators unlock the potential of the new normal based on his experience working with professionals in medical, healthcare, aviation, sports, and hospitality industries as well as faculty, staff, and administrators in K12 and higher education across five continents.

Keywords: Instructional design, Evidence-based medical education, Plenary session, Keynote

Journal Article

Instructional Alignment

Objectives should be aligned horizontally and vertically (1)



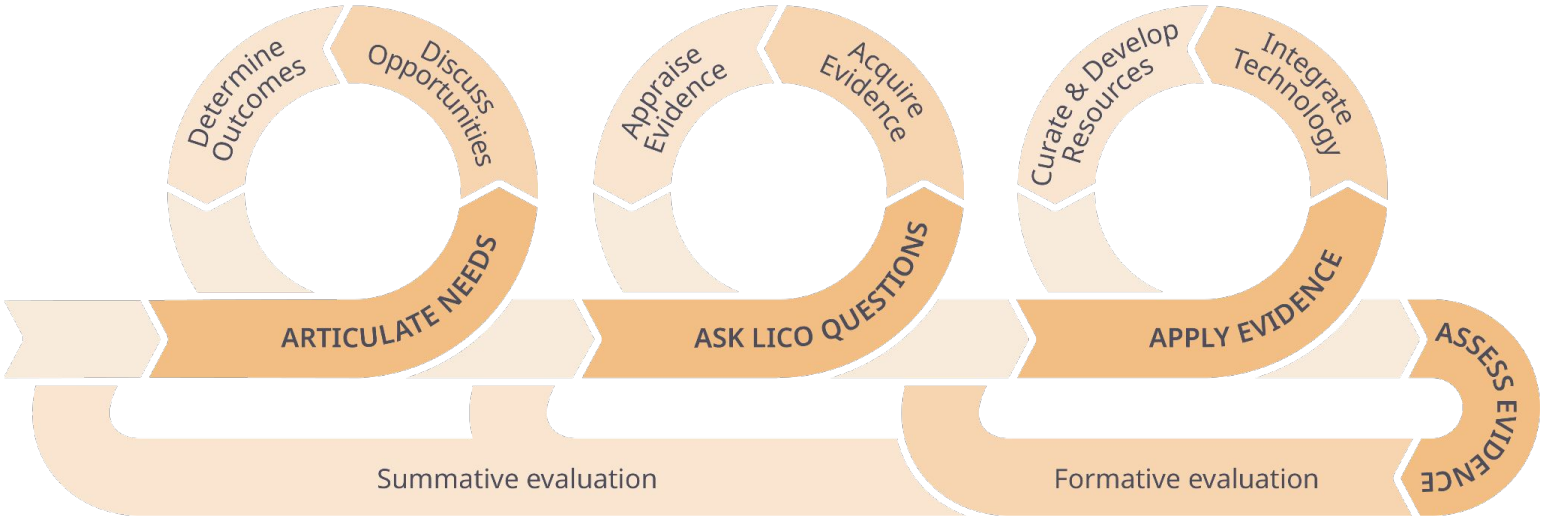
1. Hirumi A. IAMSE 2021—Plenary Session: Top 10 Ways an Instructional Designer Can Help You Define the New Normal. Med Sci Educ [Internet]. 2021 Sep 17 [cited 2022 Apr 15];31(Suppl 1):9–16. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8448173/

Instructional Design

Practical application

Instructional Design Models

AVIDesign Model



3. 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/

Case Study: AVIDesign Model

A faculty member has proposed a new elective in **Palliative Care and Pain Management**.

Articulate: Right size the initiative	
What gap in the curriculum needs to be filled?	A new course in palliative care and pain management has been proposed and accepted. These topics are mentioned in other courses but this will be the first full course in the topic. This will also fill a department need for more online electives during Covid restrictions.
Who are the learners and what do you need them to be able to do after the module/course/experience?	The students are third and fourth year medical students.I expect this course to be an introduction to the topic to make them aware of palliative care issues. They need to be able to identify end of life needs, manage pain in basic cases, and communicate with families.
How much time do you have for design and delivery?	This course will begin in 6 months and I can meet once a week for an hour, plus planning by email as needed.

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?	This will be open to third and fourth year medical students. Since this is an elective, they would be choosing this course based on interest level but their professional goals may vary widely. They seem to be motivated by learning practical material that translates directly into patient care.
What is the desired intervention? Will it be online, synchronous?	This course will be an online course. There will be a mix of synchronous sessions and asynchronous work. We will meet 3 hours a week synchronously. The course may be 2 weeks or 4 weeks.
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?]	This course meets 3 hours a week synchronously and students are expected to spend a minimum 10 hours per week doing asynchronous work. Our learning management system (LMS) provides quizzing tools, a discussion board, and I can integrate videos and other links. The students will be expected to use this information in hospital settings or hospice care.
What are the desired outcomes?	Students will determine treatment plans for simple cases involving end of life care, signs of impending death,and best practices involving opioid management.

AVIDesign Model

Acquiring and appraising educational evidence

- Relate to educational goals, students, resources and context
- Consider quality of evidence, strength, relevance
- Consider patient cases, relevant knowledge, cultural considerations

AVIDesign Model

Designing and developing

- An initial set of objectives is made for four modules. The first two will cover the basic concepts for pain management and end of life care, the second two modules will repeat those topics, going more in depth and using more complicated cases.
- Because the course is pass/fail, the instructor proposes that the preferred assessments will be formative assessments consisting of discussions, individual feedback, and group debriefing.
- Based on the instructor's educational philosophy, the learners' interests, and the curricular needs, the team suggests 3 instructional strategies: The BSCS 5E model, Constructivist Learning, and the 5 Component Lesson Model.
- The instructor chooses the 5E model which guides the students through five major stages: Engage, Explore, Explain, Elaborate, and Evaluate. The team decides to prototype one module to be used as a guide for the rest.

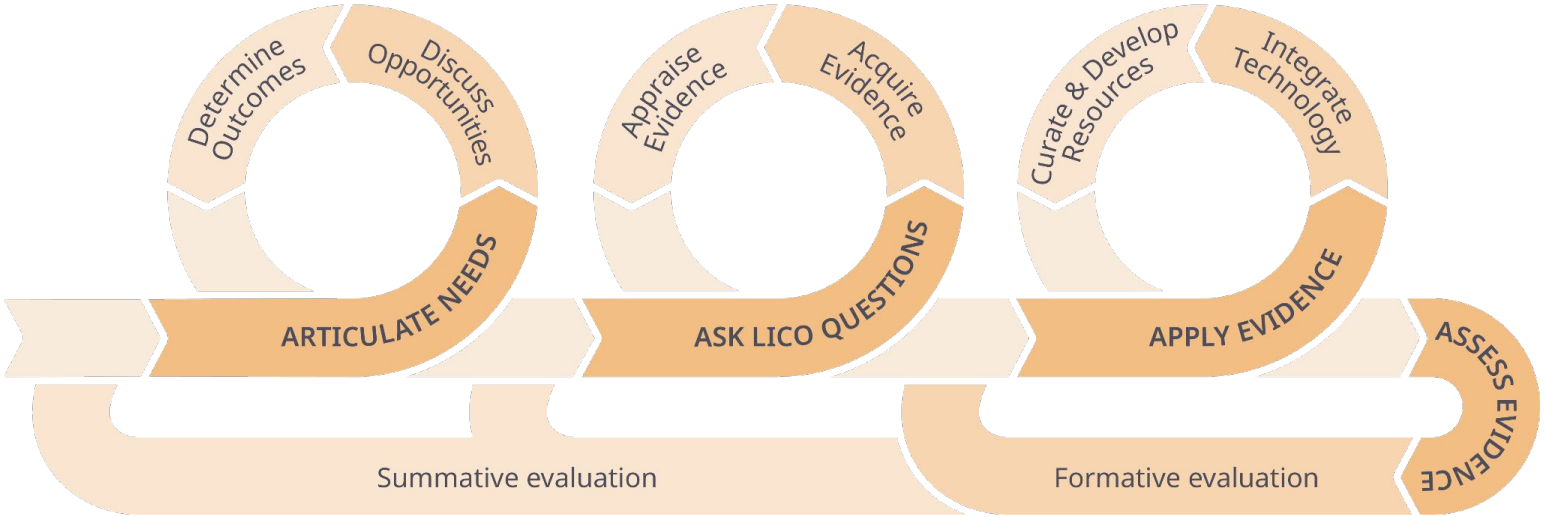
AVIDesign Model

Feedback and evaluation

- From the development of the first module, the team would then plan a formative evaluation by asking a student to review the module and give feedback.
- Based on the student feedback, the team would make revisions and develop the other modules so the course is ready for full implementation.
- After the course, the instructor and the department use student feedback to determine the need for further revision.

Instructional Design Models

AVIDesign Model



3. 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/

Instructional Design

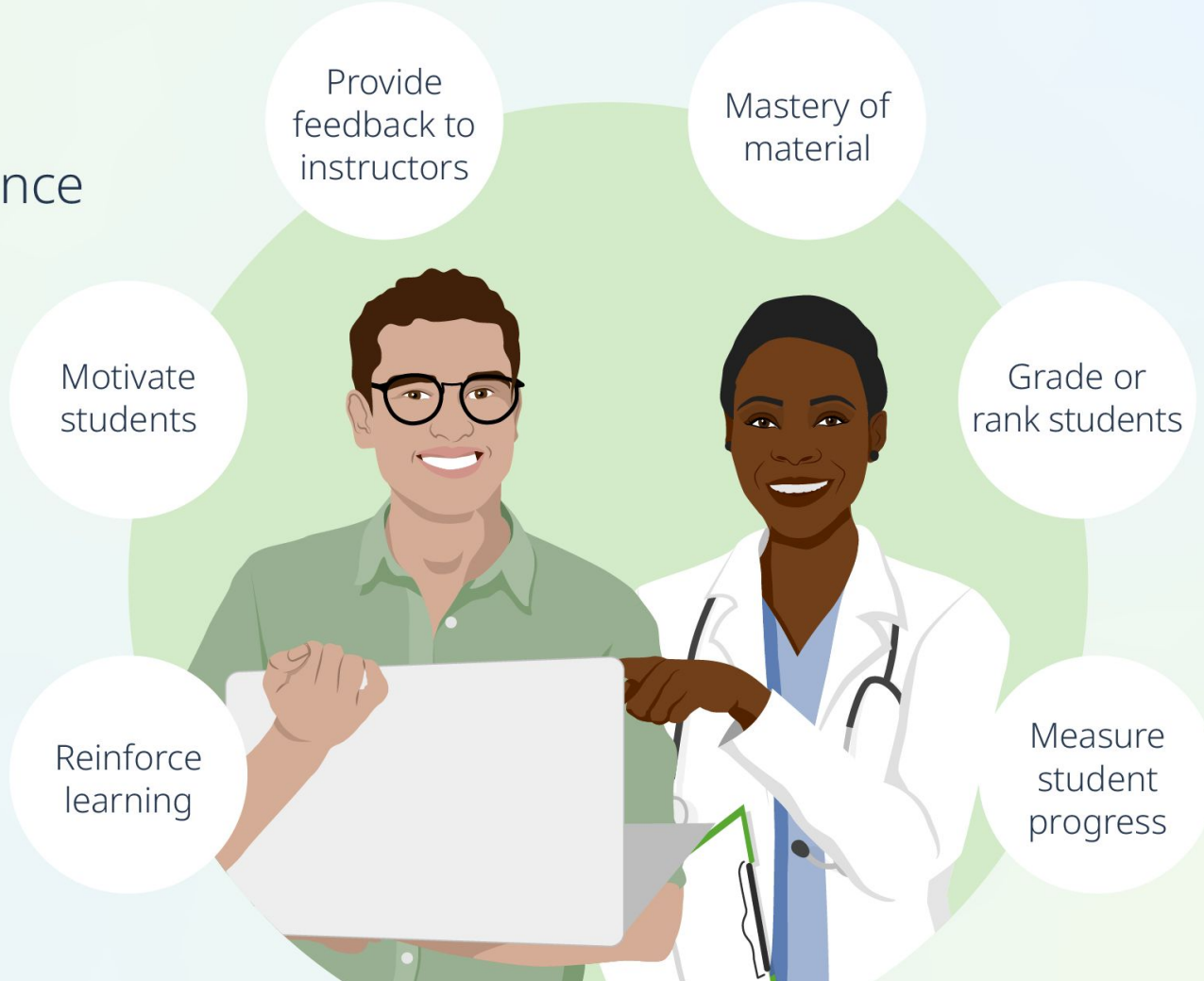
Assessments

Question

What is/are the roles of assessments?

Assessments

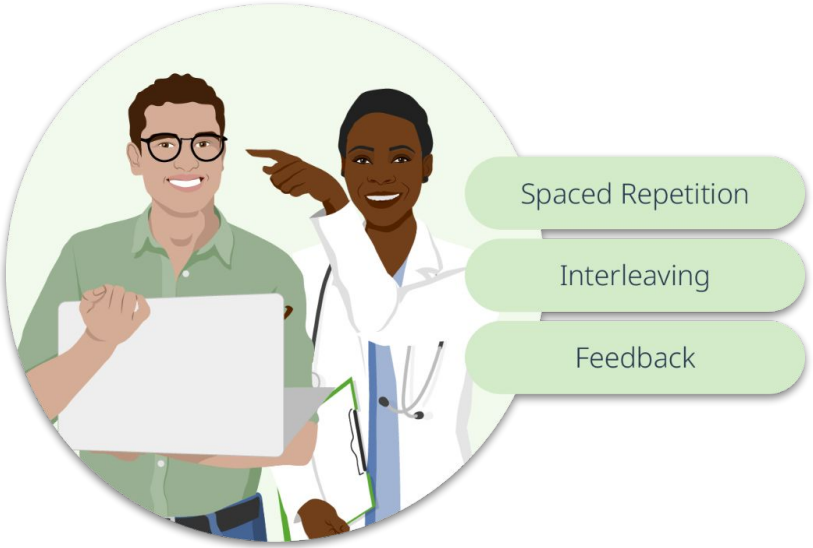
Measure and Enhance Learning



Formative Assessments

Reinforcing learning

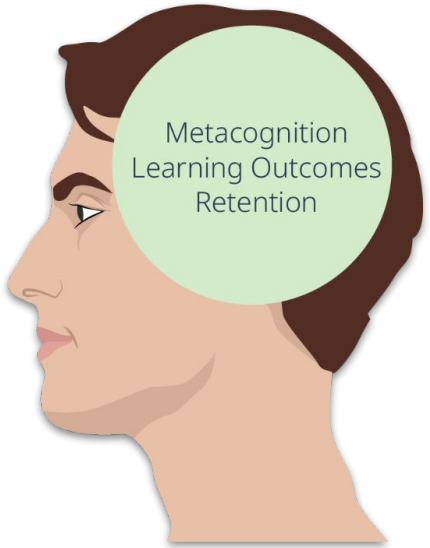
When assessments promote:

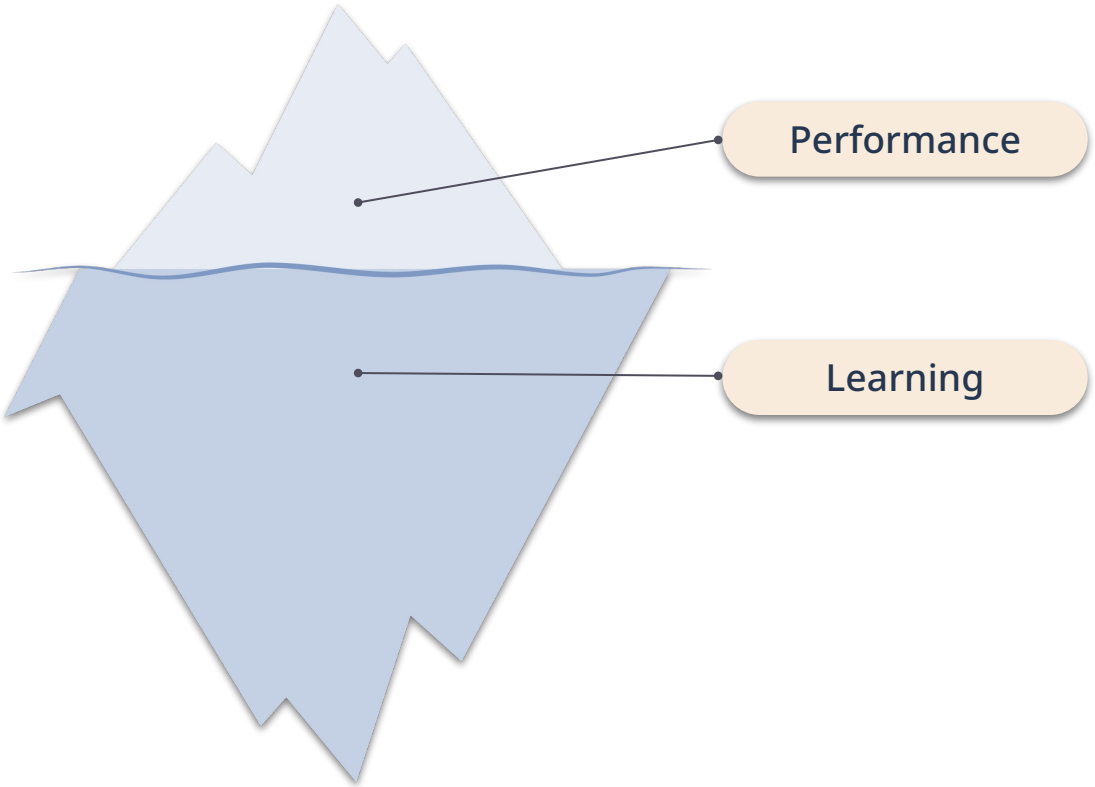


- Spaced Repetition
- Interleaving
- Feedback

Test Enhanced Learning

We see improved results in:



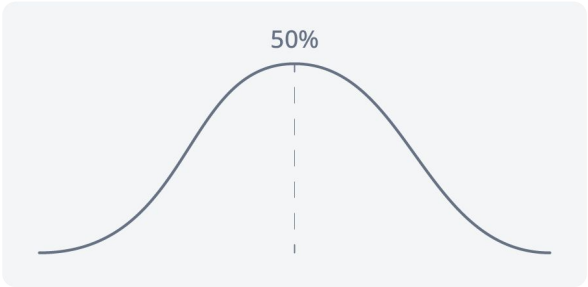

Performance
Learning

Designing Assessments

Assessment Approaches

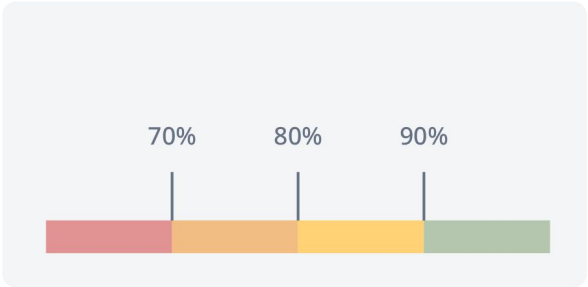
Norm vs Criterion referenced assessments

Norm-referenced



- Students are ranked, scores are standardized.
- By design, 50% of students are above, 50% are below.

Criterion-referenced



- Students are scored based on mastery.
- Scores are grades or ratings such as pass/fail.

Instructional Design

Designing assessment

The need for instruction, the learners, the context for learning, and the objectives all help determine the need for assessment such as:

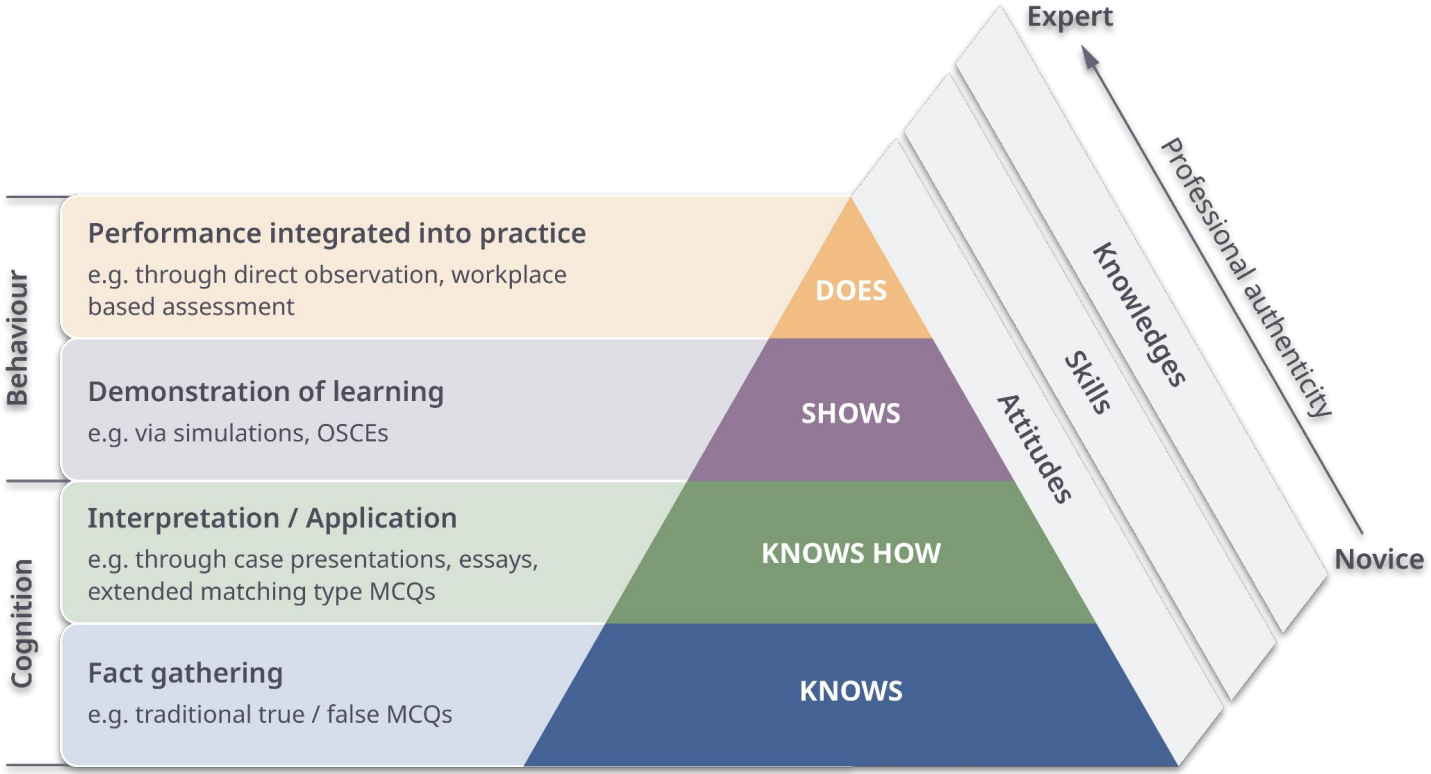
- The **format** in which will learners be assessed, e.g, online, on paper, or observed in a clinical setting.
- The **number of assessments** that will be given and when.
- The **type of feedback needed** to help the students develop the necessary skills, knowledge, and dispositions.

Mapping Assessment to Learning Objectives

Test blueprints

		Domain(s)*			
Objective	**% of test**	**Cognitive:** Remember	**Cognitive:** Understand	**Cognitive:** Apply	**Affective:** Reaction
Terminal objective: 1.0 Use SPIKES framework to give bad news.**					
Enabling objectives					
1.1 Define parts of the SPIKES mnemonic	10 %	10 %			
1.2 Identify appropriate settings and contexts in which to use SPIKES	10 %	5 %	5 %		
1.3 Given a patient case, explain how the SPIKES framework would be used.	40 %	10 %	10 %	20 %	
1.4 Given patient reaction(s), determine how to best respond.	40 %			20 %	20 %

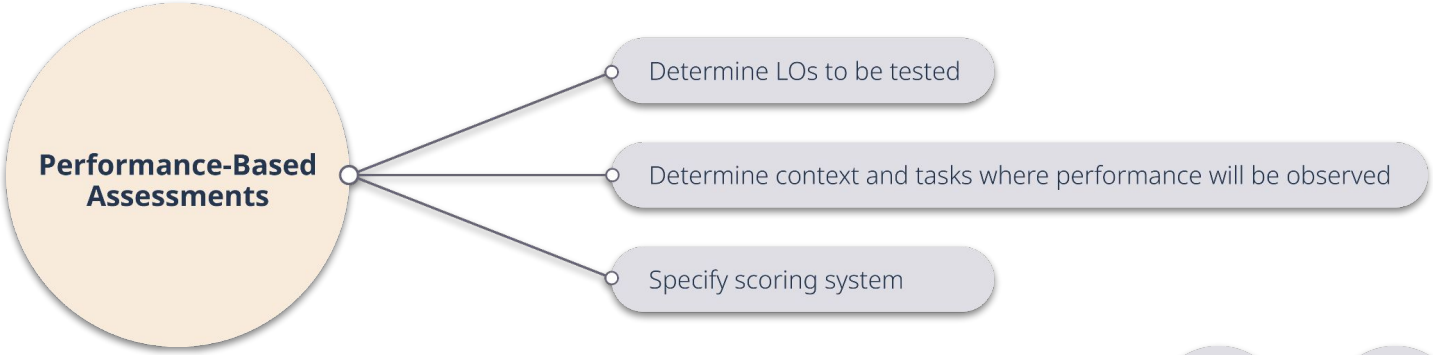
*) Assessments may include any levels of cognitive, affective, and/or psychomotor domains. Only a few are shown here for space considerations.
**) SPIKES stands for Setting, Perception, Invitation or information, Knowledge, Empathy, Summarize or Strategies



Based on work by Miller GE, The Assessment of Clinical Skills/Competence/Performance; Acad. Med. 1990; 65(9); 63-67
Adapted by Drs. R. Mehay & R. Burns, UK (Jan 2009)

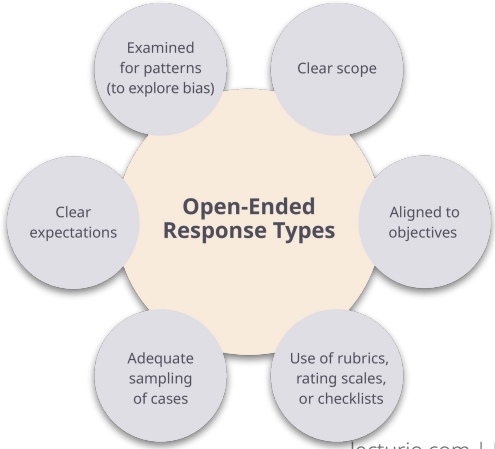
Assessment Methods

Specific considerations



Multiple Choice Questions

- The stem (the first part of the question) should fully formulate the problem or question. A student should be able to formulate the correct answer before viewing the responses (5,15).
- The responses should all grammatically match the stem, be homogenous (e.g. all diseases or all tests), and be kept as short as possible (5,15).
- The detractors (wrong answers) should be plausible to an uninformed person but not arguably correct (5).
- The options "all of the above" and "none of the above" should be used sparingly (5).
- Negative phrasing should be avoided but when used, the negative (e.g. "not") should be bold and/or capitalized to ensure it is noticed (5).

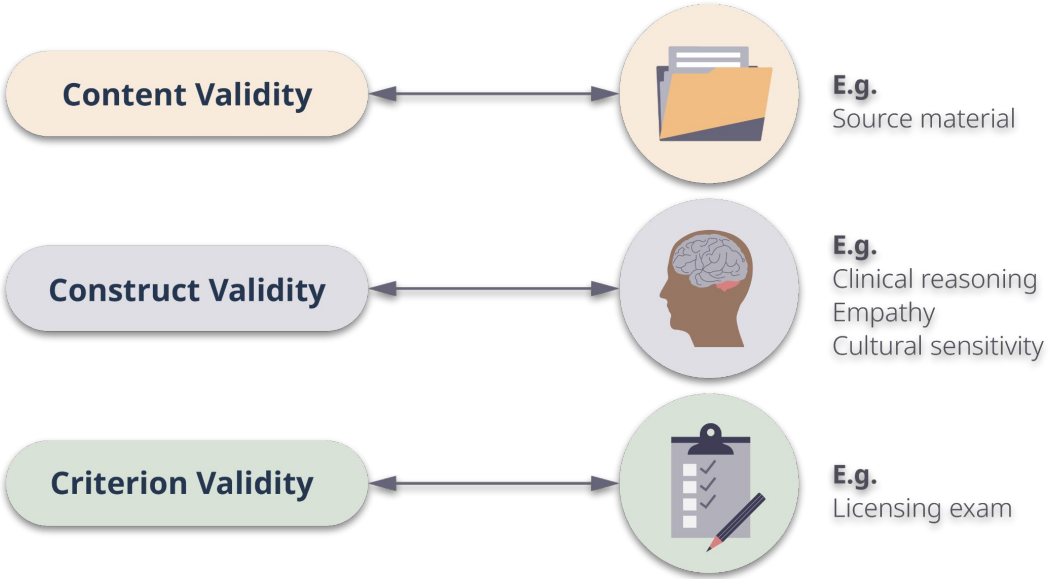


Evaluating Assessments

Assessments

Validity and reliability

Validity refers to the degree to which the assessment measures what it intends to measure while **reliability** refers to the consistency with which an assessment measures



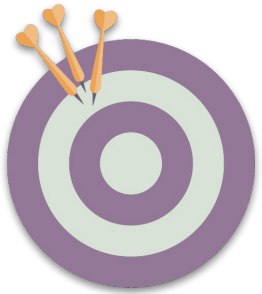
Assessments

Validity and reliability

Validity refers to the degree to which the assessment measures what it intends to measure while **reliability** refers to the consistency with which an assessment measures

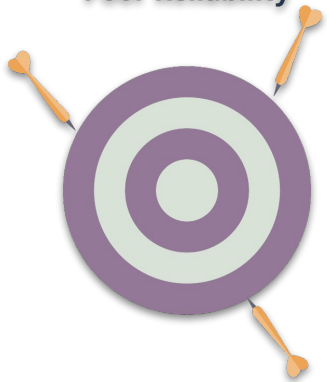
Target A

Poor Validity
Good Reliability



Target B

Poor Validity
Poor Reliability



Target C

Good Validity
Good Reliability

Evaluating Assessments

Item analysis

1. Difficulty Index
2. Discrimination Index
3. Item-Total correlation
4. Cronbach’s Alpha
5. Distractor analysis

Evaluating Assessments

Learning Analytics

Evaluating Assessments

Item analysis

Item	Difficulty Index	Discrimination Index: 20%	Discrimination Index: 33%	Discrimination Index: 50%	Item-total correlation	Corrected item-total correlation	Cronbach's Alpha
	Good	Ideal			Good		
	Too difficult	Good			Consider review		
Key	Too easy	Consider review			Needs review		
		Needs review					
		Consider removal					
4108	0.781	0.336	0.253	0.171	0.375	0.357	0.928
4110	0.69	0.29	0.237	0.197	0.265	0.244	0.928
4226	0.603	**0.53**	0.331	0.239	0.328	0.306	0.928
4228	0.519	0.343	0.254	0.206	0.223	0.199	0.928
4326	0.793	0.246	0.224	0.18	0.3	0.281	0.928
4354	0.823	0.276	0.255	0.195	0.33	0.314	0.928
4358	0.552	0.298	0.255	0.193	0.262	0.239	0.928
4370	0.788	0.161	0.167	0.135	0.229	0.21	0.928
4384	0.614	**0.451**	0.357	0.24	0.313	0.291	0.928
4392	0.819	0.356	0.263	0.181	0.333	0.317	0.928
4398	0.734	0.323	0.248	0.15	0.307	0.287	0.928
4404	0.454	0.337	0.258	0.175	0.215	0.192	0.928
4464	0.82	0.308	0.211	0.139	0.296	0.279	0.928
4506	0.405	0.347	0.299	0.194	0.242	0.219	0.928
4598	0.414	0.15	0.06	0.067	0.077	0.053	0.929
4746	0.467	**0.432**	0.223	0.122	0.263	0.24	0.928
4770	0.778	**0.484**	0.383	0.256	0.472	0.456	0.928

Question

A 55-year-old man presents with chest pain radiating to his left arm. An ECG shows ST-segment elevation in leads II, III, and aVF. Which of the following is the most likely diagnosis?

A. Aortic dissection

B. Pulmonary embolism

C. Acute pericarditis

D. Myocardial infarction

Difficulty Index (p-value): 0.95 (Very high, meaning most students answered correctly, suggesting the question might be too easy.)

Discrimination Index: 0.10 (Low, indicating that the question does not effectively differentiate between high-performing and low-performing students.)

Distractor Analysis: Most students chose the correct answer (D), while almost none selected distractors A, B, or C.

Revised question

A 55-year-old man presents with chest pain radiating to his left arm. He also reports shortness of breath and diaphoresis. His medical history includes hypertension and hyperlipidemia. An ECG shows ST-segment elevation in leads II, III, and aVF. Troponin levels are elevated. Which of the following is the most appropriate immediate management?

A. Administering intravenous thrombolysis

B. Emergency percutaneous coronary intervention

C. Administering intravenous beta-blockers

D. Initiating anticoagulation therapy with heparin

Assessments: New Uses for an Old Tool

October 12, 2022 ·

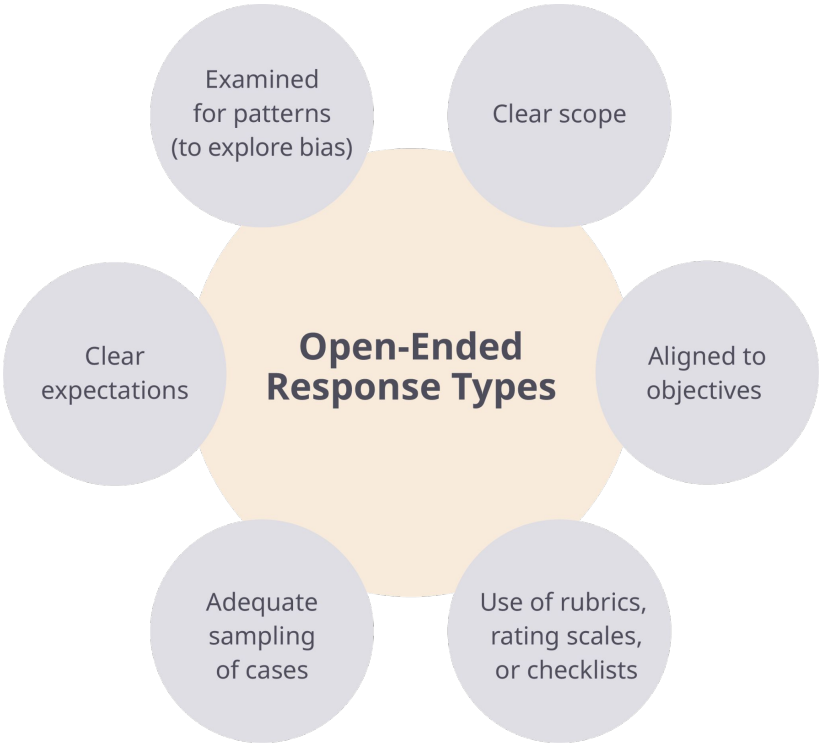
Authors: Meredith Ratliff, MAT MA; Satria Nur Sya'ban, MD; Adonis Wazir, MD; Sarah Haidar, M.Ed., TD.; Sara Keeth, PhD, PMP; Peter Horneffer, MD

Educators and students alike often think of an assessment as the final stop on the path of learning. Our current understanding of cognitive and neuroscience has taught us, however, that assessments can be an invaluable learning tool as well as a means of evaluation. Properly designed and well-written assessments can determine mastery of material, grade or rank students, measure student progress, reinforce learning, motivate students, and provide feedback to instructors (1). Assessments include more than just written exams; they encompass any form of evaluation or appraisal of a student's educational progress by formal or informal means.

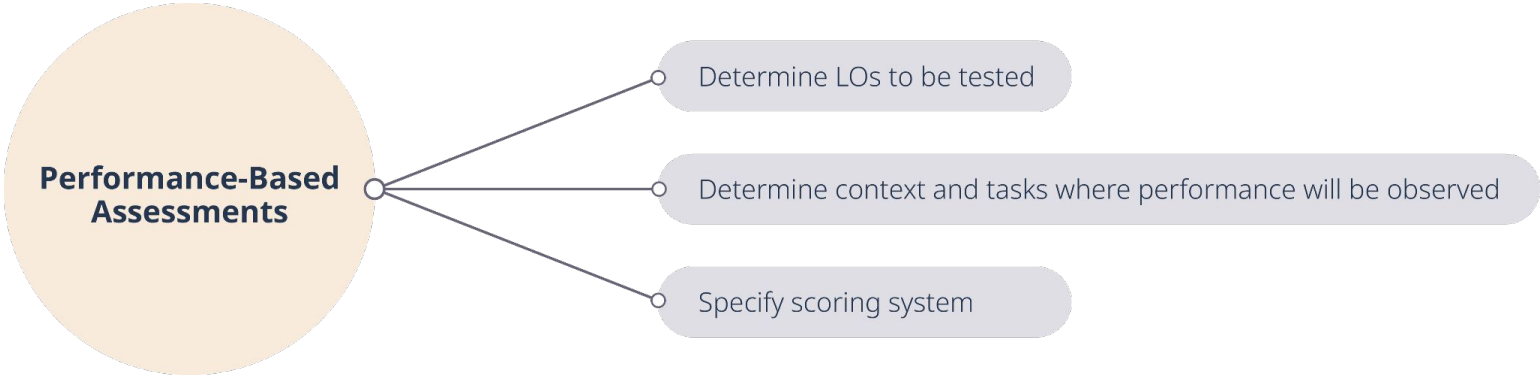
Multiple Choice Questions

- The stem (the first part of the question) should fully formulate the problem or question. A student should be able to formulate the correct answer before viewing the responses (5,15).
- The responses should all grammatically match the stem, be homogenous (e.g. all diseases or all tests), and be kept as short as possible (5,15).
- The detractors (wrong answers) should be plausible to an uninformed person but not arguably correct (5).
- The options “all of the above” and “none of the above” should be used sparingly (5).
- Negative phrasing should be avoided but when used, the negative (e.g. “not”) should be bold and/or capitalized to ensure it is noticed (5).
- Avoid extreme statements such as always or never (16).
- Questions that are context-rich and include clinical information aid in assessing higher order skills and transfer of learning (13,14,16).
- When creating context-rich questions, put all relevant clinical information first and avoid any ambiguity (16)

Open-ended Questions



Performance-based Assessments



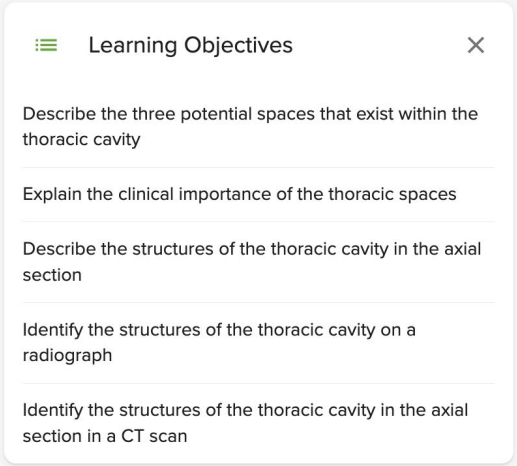
How Can Lecturio Help?

1

Determine Objectives and Outcomes

Time saving feature

Video Lecture objectives



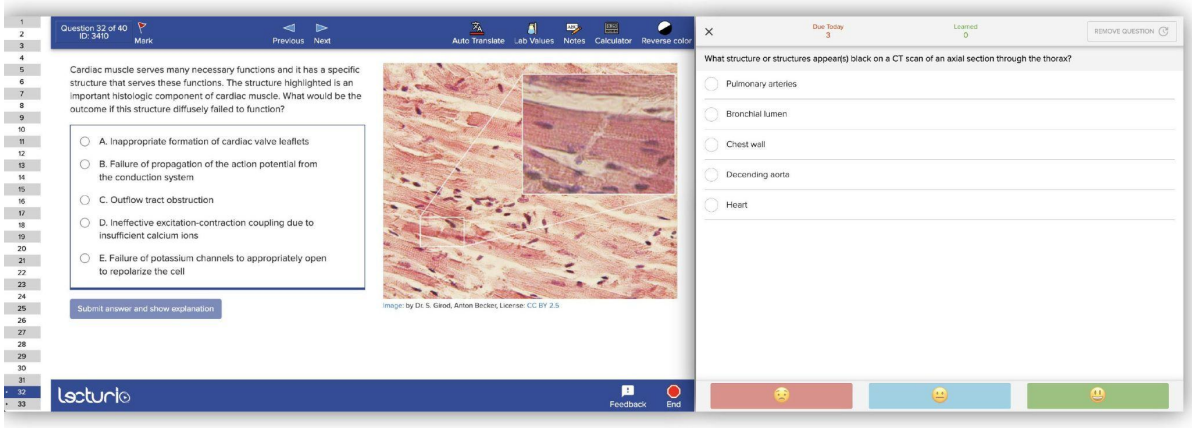
Preset objectives that can help inspire or support educators in determining or matching lesson objectives with assignments through Lecturio

2

Align Assessments

Time saving feature

Qbank and Quiz Questions



Qbank and Quiz Questions repository can act as springboard for educators to align assessments from. Pre-mapped Qbank helps take burden off of educators.

3

Evaluate Learning and Assessments

Time saving feature

Learning analytics

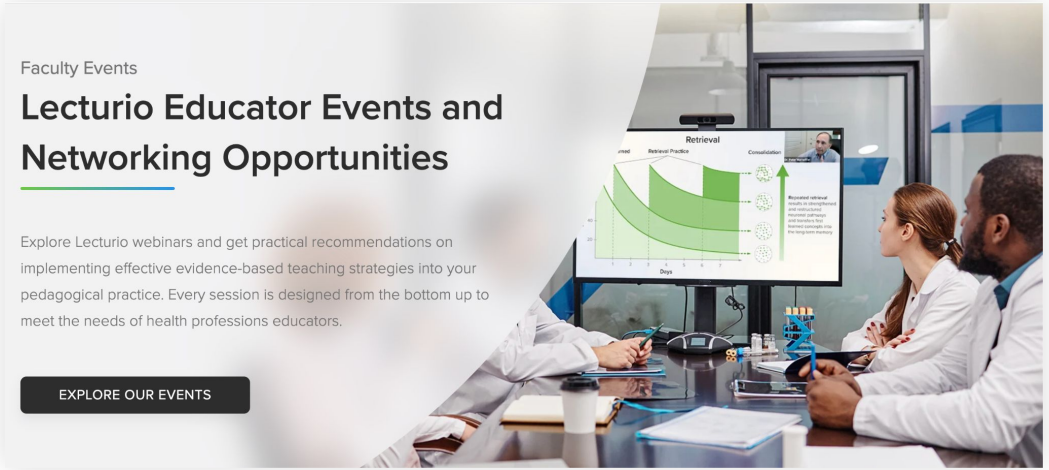
The Learning Analytics data in Lecturio can show where students need work, what questions they find difficult, and what objectives they have already covered. (etc etc)

4

Formulate Instructional Strategies

Time saving feature

Faculty development



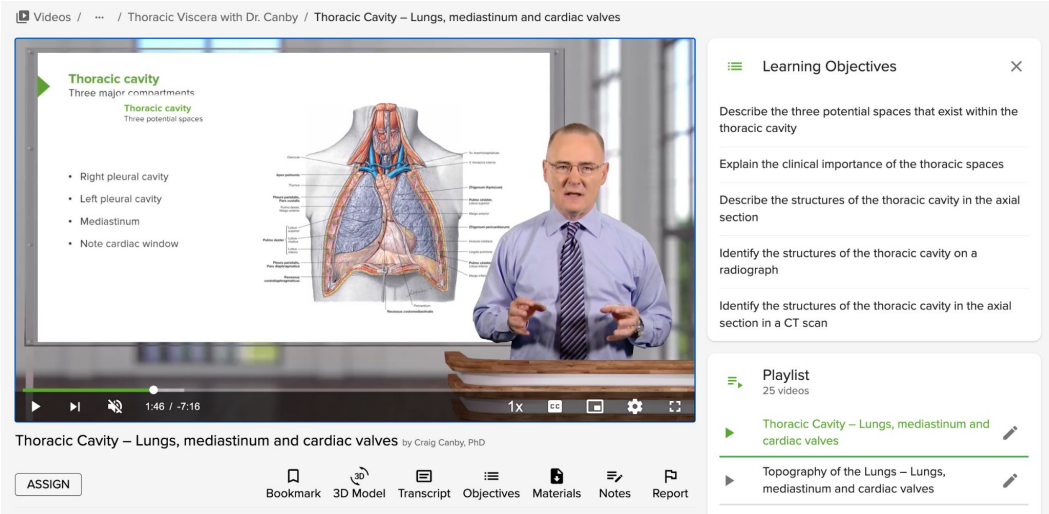
The Lecturio webinars and faculty development workshops can help educators stay up to date on the latest instructional strategies and teaching approaches.

5

Create and Curate Content

Time saving feature

Video library



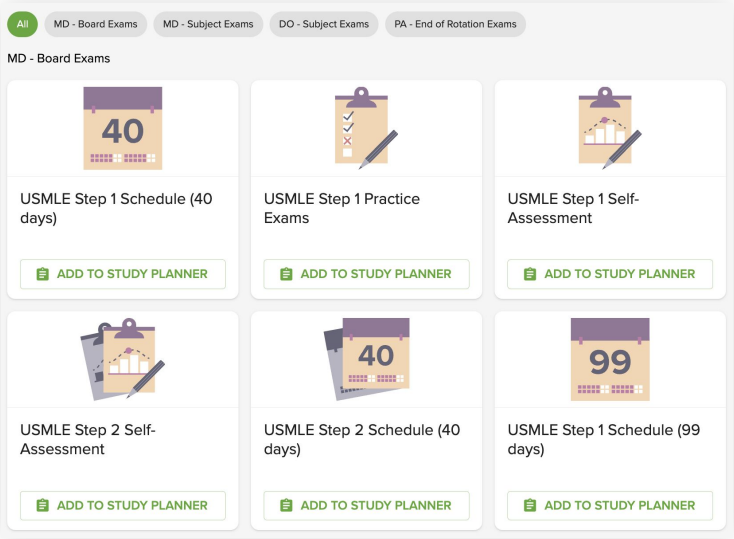
Our video library and concept notes provide a ready-to-use repository of content, making this step much faster.

5

Create and Curate Content

Time saving feature

Learning Paths



Learning paths save time by providing a ready-to-use and aligned lesson-assessment combination, prepared for you and your students by our team of experts.

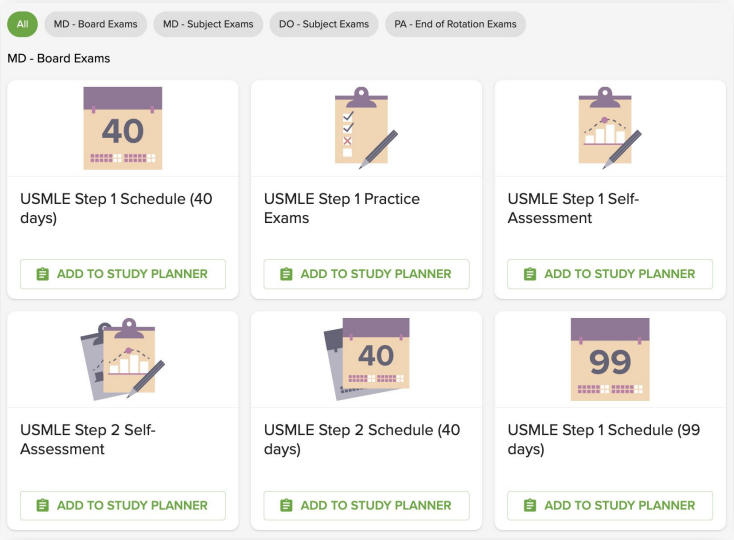
6

Create and Curate Content

8

Time saving feature

Learning Paths



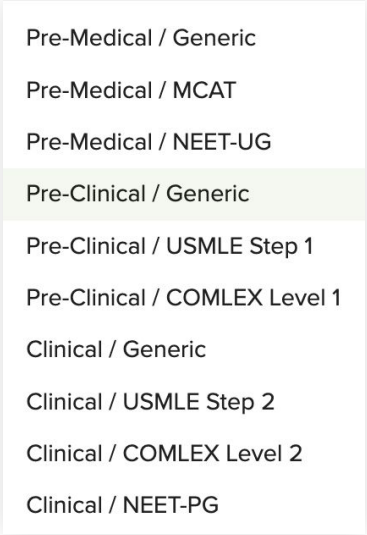
Learning paths save time by providing a ready-to-use and aligned lesson-assessment combination, prepared for you and your students by our team of experts.

7

Create and Curate Content

Time saving feature

Course mapping



Lecturio course mapping can take the burden off of educators by curating content into courses that fit your curriculum and plans.

6

Integrate Technology

Time saving feature

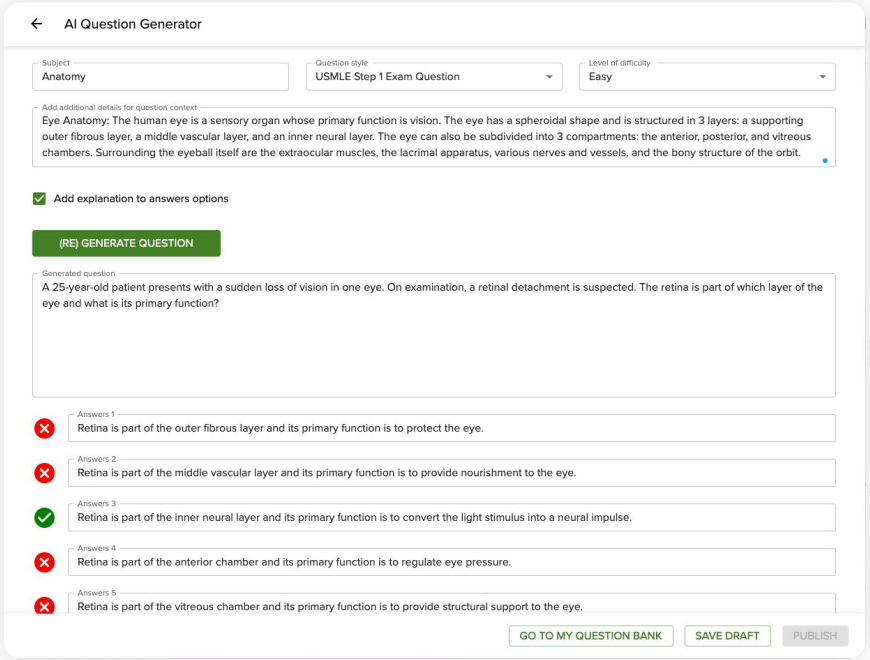
Desktop and App access

The Lecturio web app and mobile app can be some of the technological tools that teachers include as part of their instructional approach.

7

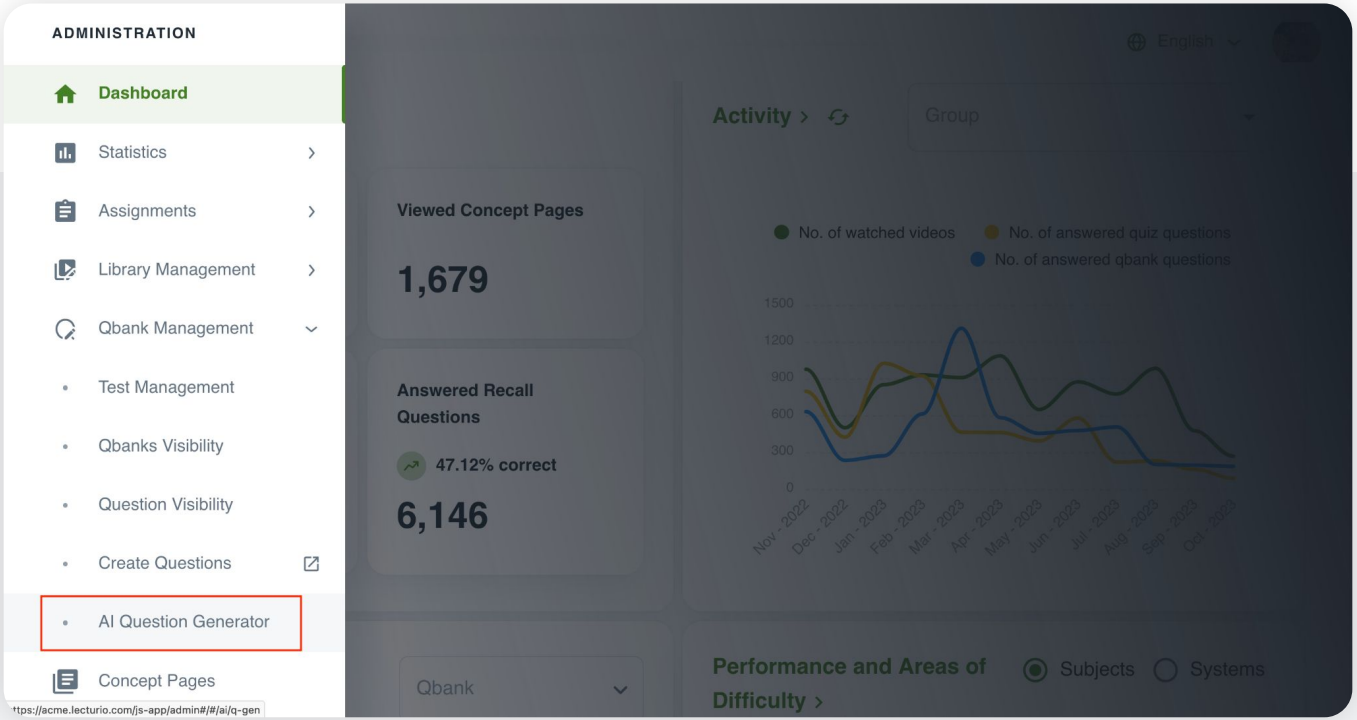
Write High-Quality Questions

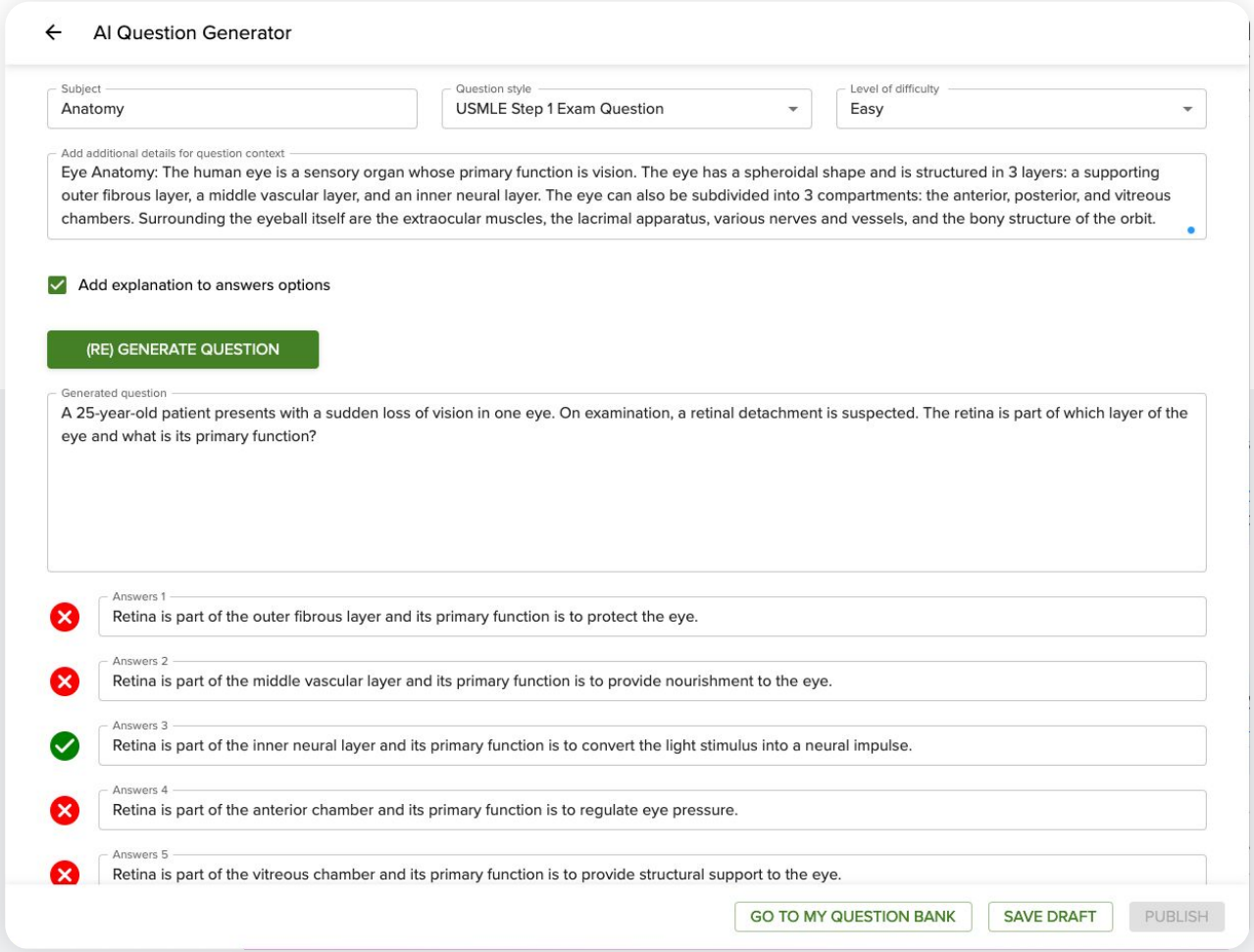
The AI-Question Writer



Inside Lecturio

What the AI question generator looks




AI Question Generator
Subject
Anatomy
Question style
USMLE Step 1 Exam Question
Level of difficulty
Easy
Add additional details for question context
Eye Anatomy: The human eye is a sensory organ whose primary function is vision. The eye has a spheroidal shape and is structured in 3 layers: a supporting outer fibrous layer, a middle vascular layer, and an inner neural layer. The eye can also be subdivided into 3 compartments: the anterior, posterior, and vitreous chambers. Surrounding the eyeball itself are the extraocular muscles, the lacrimal apparatus, various nerves and vessels, and the bony structure of the orbit.
Add explanation to answers options
(RE) GENERATE QUESTION
Generated question
A 25-year-old patient presents with a sudden loss of vision in one eye. On examination, a retinal detachment is suspected. The retina is part of which layer of the eye and what is its primary function?
Answers 1
Retina is part of the outer fibrous layer and its primary function is to protect the eye.
Answers 2
Retina is part of the middle vascular layer and its primary function is to provide nourishment to the eye.
Answers 3
Retina is part of the inner neural layer and its primary function is to convert the light stimulus into a neural impulse.
Answers 4
Retina is part of the anterior chamber and its primary function is to regulate eye pressure.
Answers 5
Retina is part of the vitreous chamber and its primary function is to provide structural support to the eye.
GO TO MY QUESTION BANK
SAVE DRAFT
PUBLISH

(RE) GENERATE QUESTION

Generated question

A 25-year-old patient presents with a sudden loss of vision in one eye. On examination, a retinal detachment is suspected. The retina is part of which layer of the eye and what is its primary function?

Answers 1

Retina is part of the outer fibrous layer and its primary function is to protect the eye.

Answers 2

Retina is part of the middle vascular layer and its primary function is to provide nourishment to the eye.

Answers 3

Retina is part of the inner neural layer and its primary function is to convert the light stimulus into a neural impulse.

Answers 4

Retina is part of the anterior chamber and its primary function is to regulate eye pressure.

Answers 5

Retina is part of the vitreous chamber and its primary function is to provide structural support to the eye.

Paragraph

Correct answer C: The retina is part of the inner neural layer of the eye. Its primary function is to convert the light stimulus into a neural impulse, which is then carried by the optic nerve to the brain for interpretation. The intention of this question was to test the student's understanding of eye anatomy and the role of different layers in vision.

Answer A is incorrect because the outer fibrous layer primarily provides mechanical support and protection to the eye.

Answer B is incorrect as the middle vascular layer primarily provides nourishment to the eye.

Answer D is incorrect because the anterior chamber is involved in regulating intraocular pressure, not vision.

Answer E is incorrect as the vitreous chamber provides structural support to the eye, not vision.

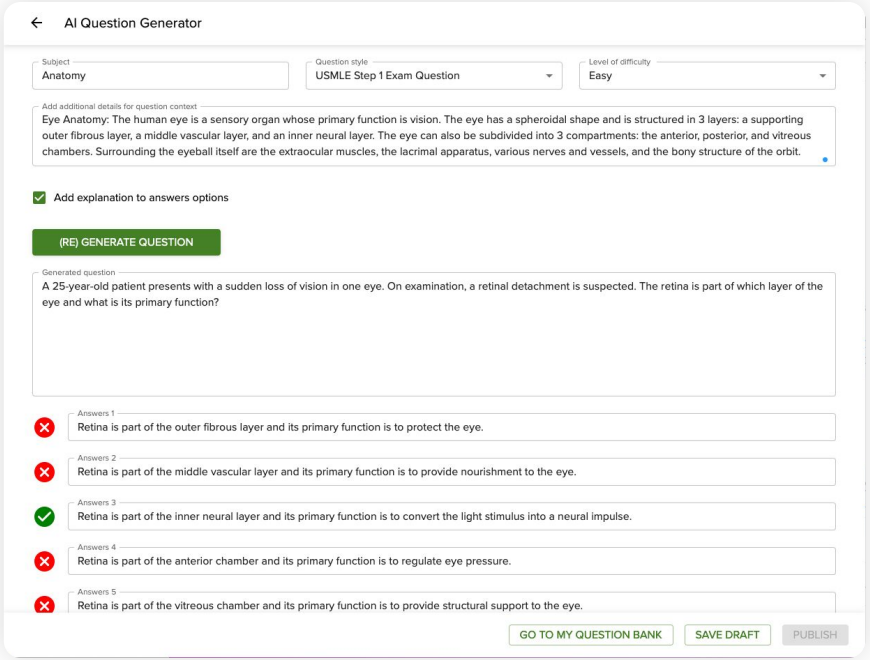
Learning Objective: Students should be able to identify the different layers of the eye and understand their primary functions in vision.

tiny

7

Write High-Quality Questions

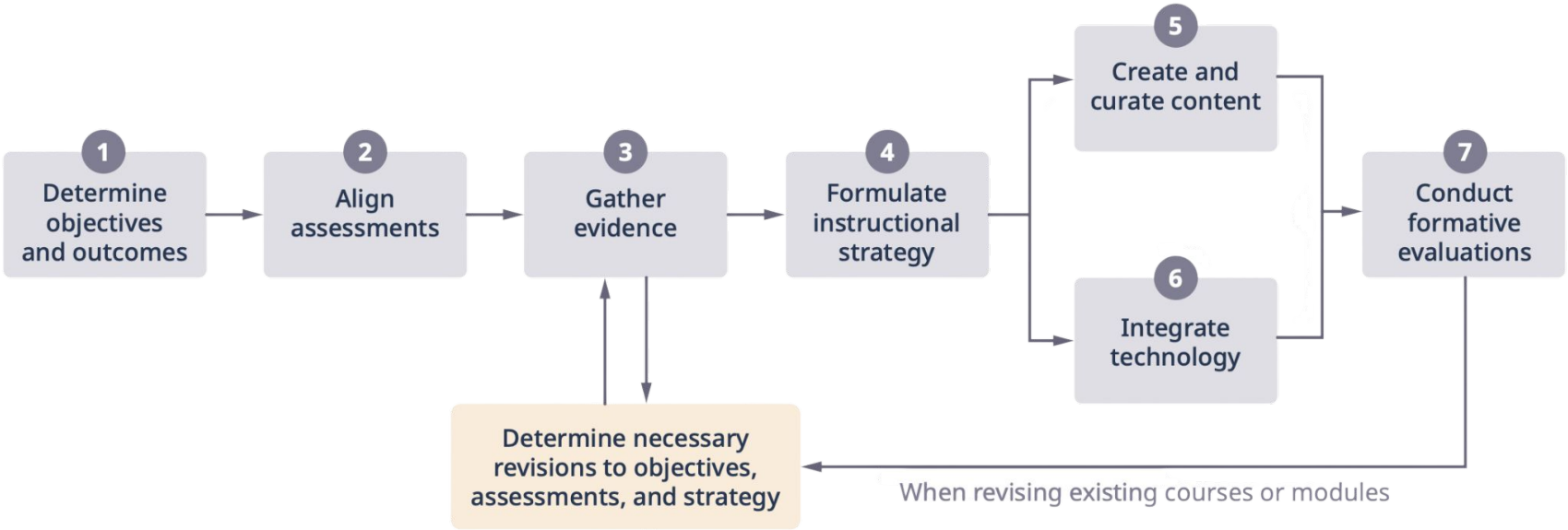
The AI-Question Writer



AI Question Writer in Lecturio helps educators **write questions with AI**, in a way that is **fast, accurate**, and most importantly, **still fully under the educator's control / supervision**

Instructional Design Outline

Developing a new course



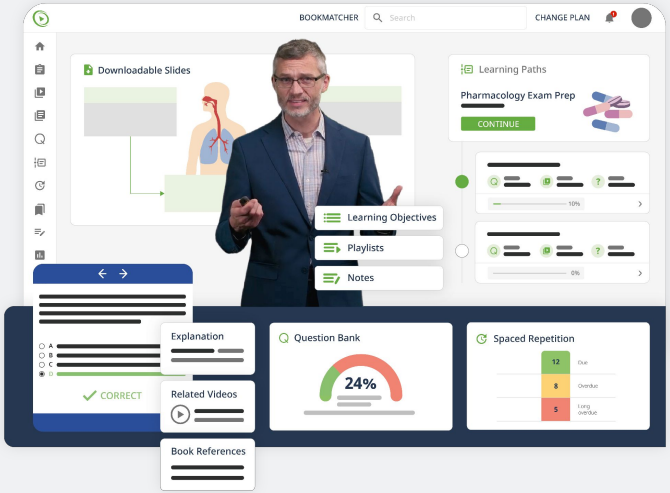
Other Ways Lecturio can Help

The Two Sides of

Precision Health Science Teaching

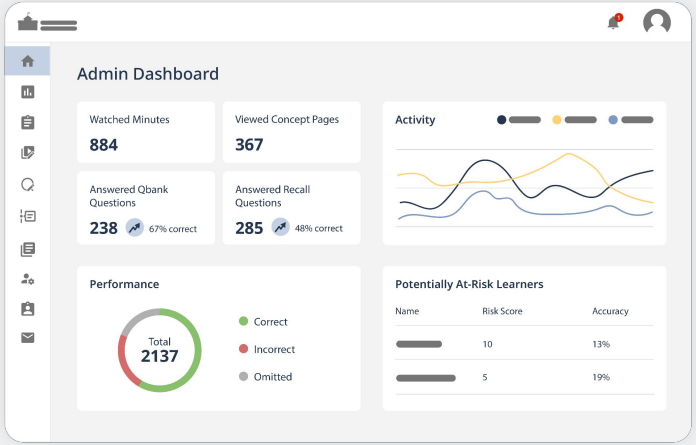
For Students

Personalized smart tutor

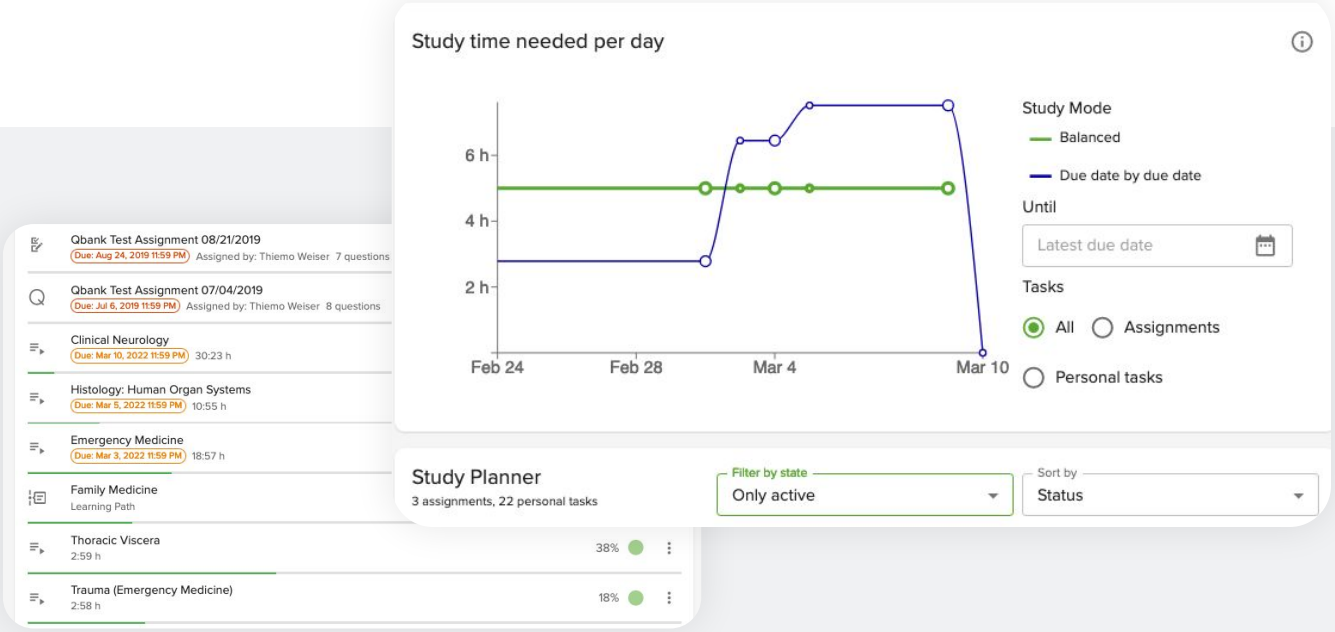


For Faculty

Digital teaching assistant

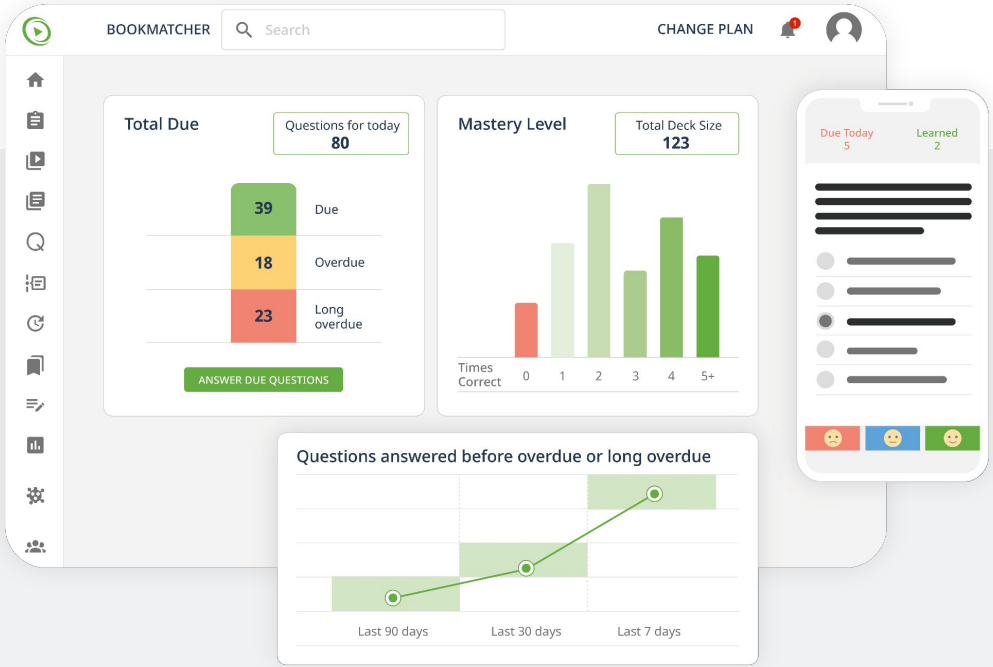


Balanced Study Coach Helps Avoid Study Crunches by Planning Ahead

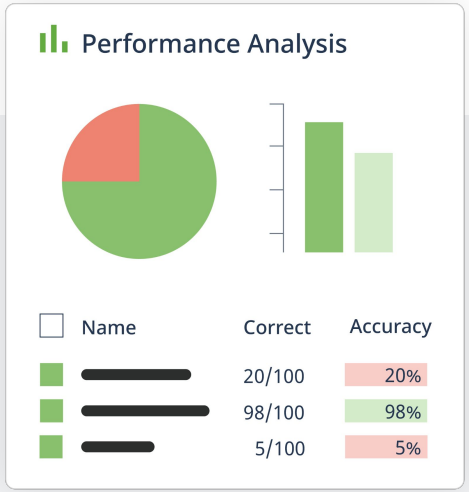


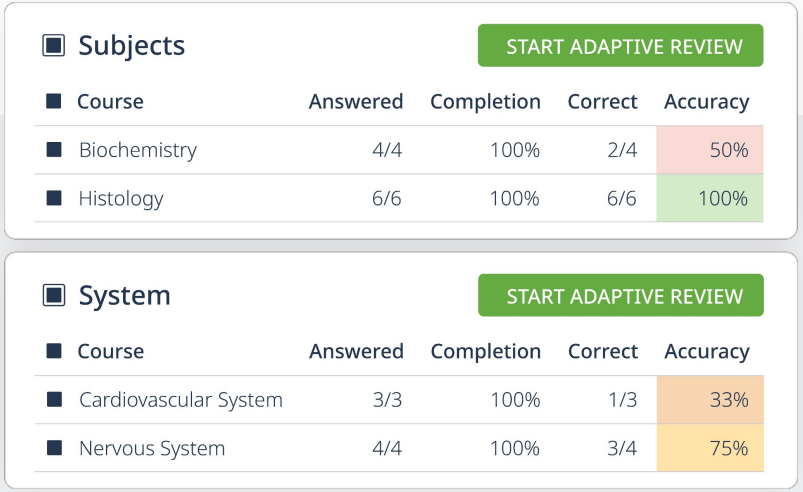
Adaptive Spaced Retrieval Algorithm Drives **Long-Term Mastery**

- Adaptive algorithm improves information recall
- Faculty can track / incentivise compliance



Configurable Adaptive Review Supports Effective Self-Directed Learning



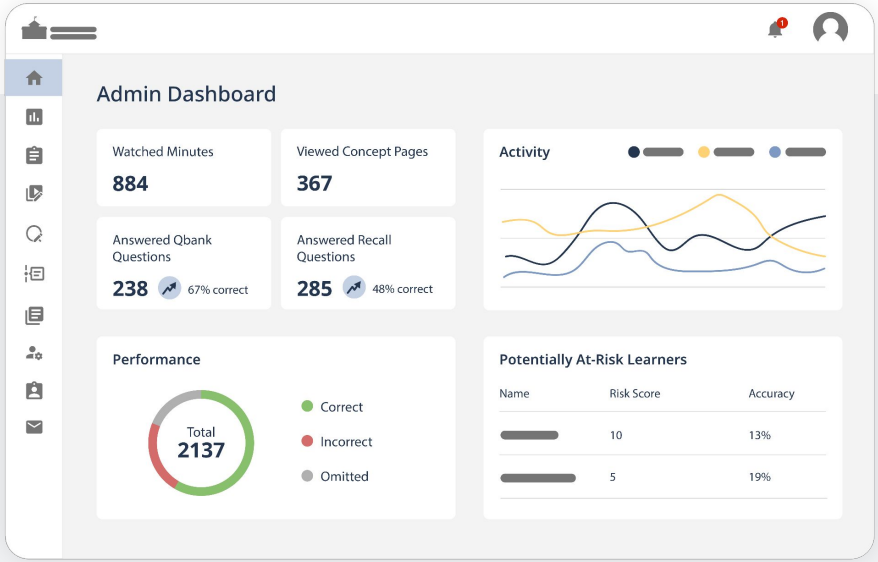


Comprehensive Tracking Enables a Comprehensive

Live Faculty Dashboard

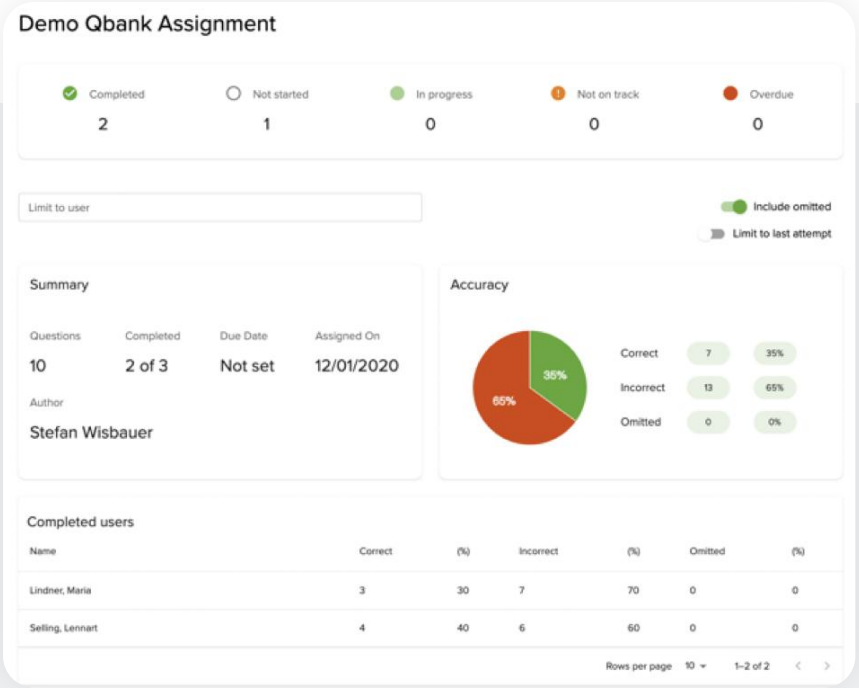
The system tracks:

- competence
- confidence
- overconfidence
- spaced repetition adherence
- mastery level
- typical mistakes
- readiness assessments



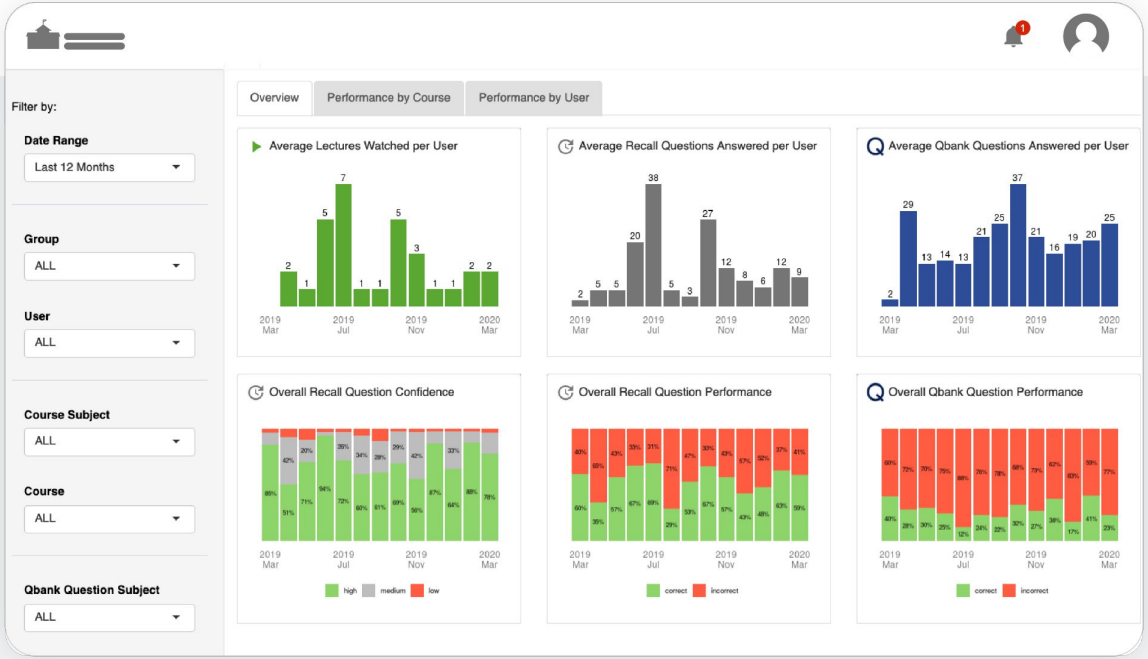
Assignment Stats

Help Focus Teaching Time on Where Students Struggle Including Typical Mistakes



Your Teaching Dashboard

Aggregate Data With Location Drill-Down on Activity, Competence, Confidence, Over-Confidence



Insight Reports

Activity

Overall activity

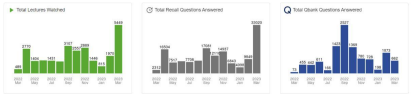
Your students' overall engagement is excellent. The key figures shown below cover the last 12 months.

Platform Usage ›
Last 12 months

Watched Minutes	Viewed Concept Pages
282,530	772

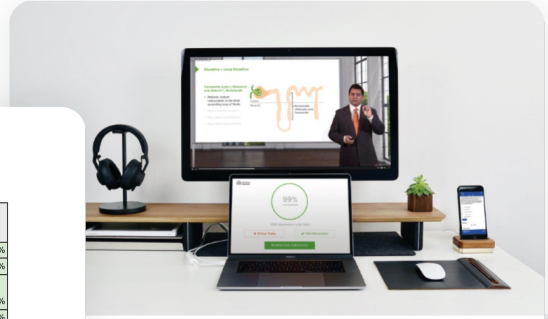
Answered Qbank Questions	Answered Recall Questions
37.47% correct	63.72% correct
14,267	207,730

The graphs below show the usage of Lecturio's key resources (video lessons, recall questions, and qbank questions) from month to month.



International Benchmark Case Questions

Subject	Accuracy	Accuracy (average all B2U Clients)	Accuracy (average all US Clients)	Delta Global	Delta US
Mental Health	43%	22%	19%	21%	24%
Med-Surg	45%	28%	34%	16%	11%
Fundamentals of Nursing: Theory	46%	30%	25%	16%	21%
Leadership	53%	47%	52%	6%	2%
Ethics	58%	55%	65%	3%	-8%
Fundamentals of Nursing: Clinical Skills	42%	41%	63%	1%	-20%
Pharmacology	41%	45%	47%	-4%	-7%
Social Sciences/Ethics	48%	54%	59%	-6%	-12%
Care of the Childbearing Family	34%	40%	51%	-6%	-16%
Physiology	37%	44%	48%	-7%	-11%
Embryology	35%	43%	45%	-7%	-10%
OBGYN	46%	54%	55%	-8%	-9%
Behavioral Science / Psychiatry	41%	49%	58%	-8%	-17%
Gerontology	22%	35%	46%	-13%	-24%
Anatomy	27%	42%	41%	-14%	-14%
Immunology	30%	45%	50%	-15%	-20%
Psychiatry	37%	52%	58%	-15%	-22%
Microbiology	30%	47%	52%	-17%	-21%
Biochemistry	23%	43%	48%	-20%	-24%
Pathology & Pathophysiology	29%	50%	56%	-21%	-27%
Pediatrics	29%	51%	58%	-22%	-29%
Internal Medicine	28%	52%	53%	-23%	-25%



lecturio

Insights Report

For

Nursing

1

Easy Integration With Your Existing Setup

LMS / Testing

CANVAS

Bb

moodle

SEB

proctorio

Deep Linking
LTI SSO

Proctoring
Integrations

Session Prep:
Strengths &
Weaknesses,
Typical Mistakes

Content &
Recording
Upload

Live Teaching & Training

Microsoft Teams

zoom

Data Lake / Analytics

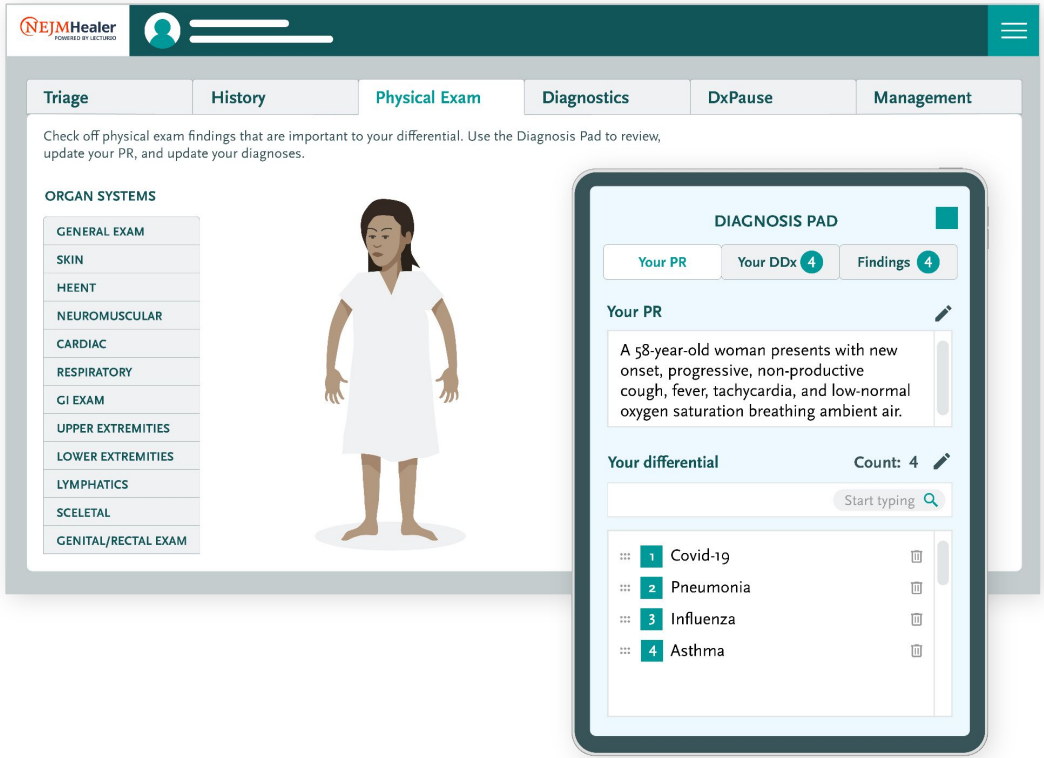
Power BI

R

Other ways Lecturio can help

Lecture Preparation	Testing-as-learning assignments	Early High-Risk Identification	Simulation (De)Briefing
In-Class Use (Quiz, Qbank)	Blended Learning	Exam Prep	Faculty Development
Formative Assessment	Flipped Classroom	Remediation Support	Data Analytics Support
Summative Assessment	TBL/PBL support (iRATS, tRATs ...)	Clerkship Support	Proctoring (via integration)

Lecturio Acquires NEJM Healer



NEJMHealer
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Let's Teach

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