



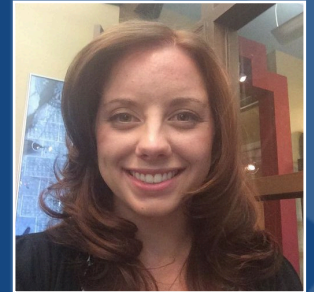
JOHNS HOPKINS
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Course Design...Backwards!

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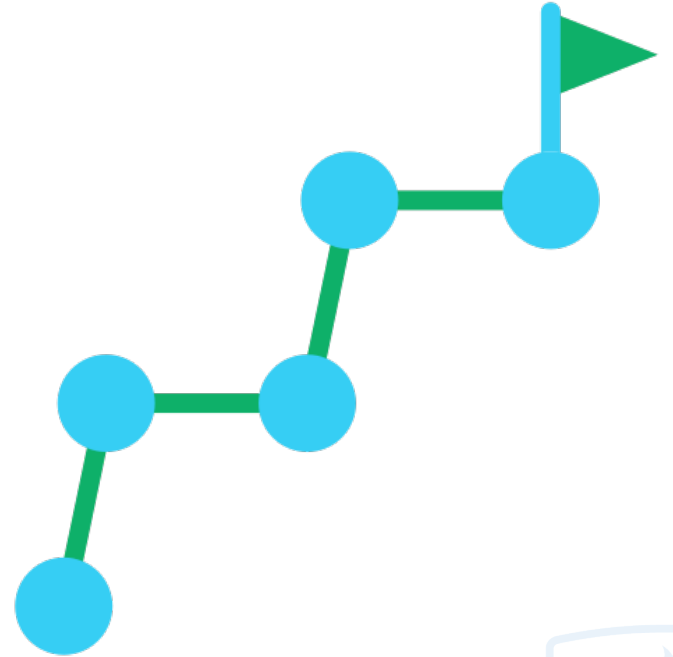
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Learning Objectives for this Workshop

After this workshop, participants should be able to:

- ▶ Describe the components of a SMART learning objective
- ▶ Modify a learning objective to make it compliant with SMART principles
- ▶ Create a SMART learning objective
- ▶ Evaluate the alignment of an assessment with SMART learning objectives
- ▶ Write an assessment to address a particular SMART learning objective



Typical Course Design



Content

Assessments

Objectives

1. Identify content we want to teach, and create slides/lectures to match that content
2. Once slides/lectures are complete, create assessments to quiz students on that material
3. Write learning objectives (often quickly and last-minute, because we are told we must), after the course design is complete

➤ What is wrong with this method?



What is Backwards Design?



Objectives

Assessments

Content

Start with the end goal, then work "backwards" to ensure students will get there:

1. Write Learning Objectives: What should students know/be able to do by the end of the course?
2. Create assessments that measure whether the learning objectives have been met
3. Plan course content that prepares students to successfully complete the assessments/ achieve the objectives

➤ Why is this better?



Benefits to Students: Transparency



Map Photo by [Tamas Tuzes-Katai](#) on [Unsplash](#)

Benefits for Instructors: Intentionality

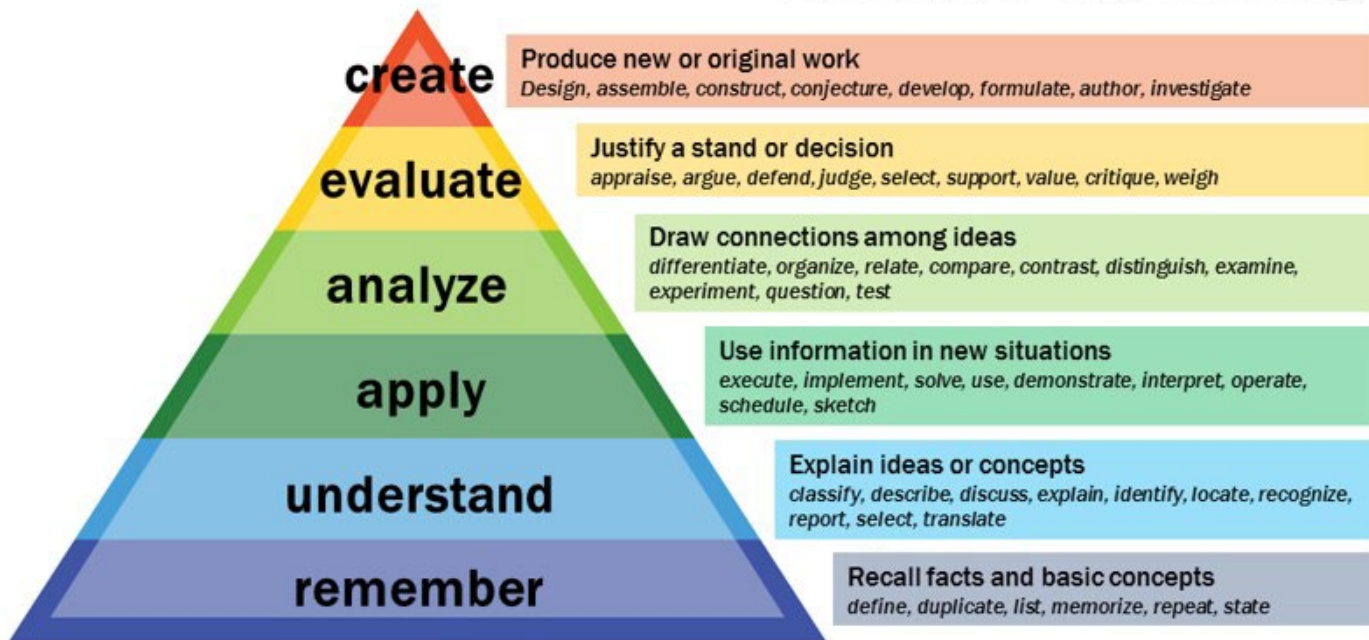


Step 1: Learning Objectives – Are They SMART?



How can we ensure a LO is Measurable?

Bloom's Taxonomy



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Goals can also be SMART!



SMART Learning Objective: Example

- ▶ **Workshop Objective:** Describe the components of a SMART learning objective

- ▶ **Course:** *Intro to the History of Public Health Vaccine Campaigns in the U.S.*
- ▶ **Objective:** At the end of this course, students will be able to:
 - ▶ **Understand the history of global public health vaccine campaigns**

- ▶ Is this course learning objective SMART?
 - ▶ Specific? **NO**
 - ▶ Measurable? **NO**
 - ▶ Attainable? **NO**
 - ▶ Relevant? **YES**
 - ▶ Time-based? **NO**



Let's Make it SMART!

- ▶ **Workshop Objective:** Describe the components of a SMART learning objective

- ▶ **Course:** *Intro to the History of Public Health Vaccine Campaigns in the U.S.*

- ▶ **Objective:** At the end of this course, students will be able to:

- ▶ **Describe the events surrounding the origin of the smallpox vaccine in the 19th century**

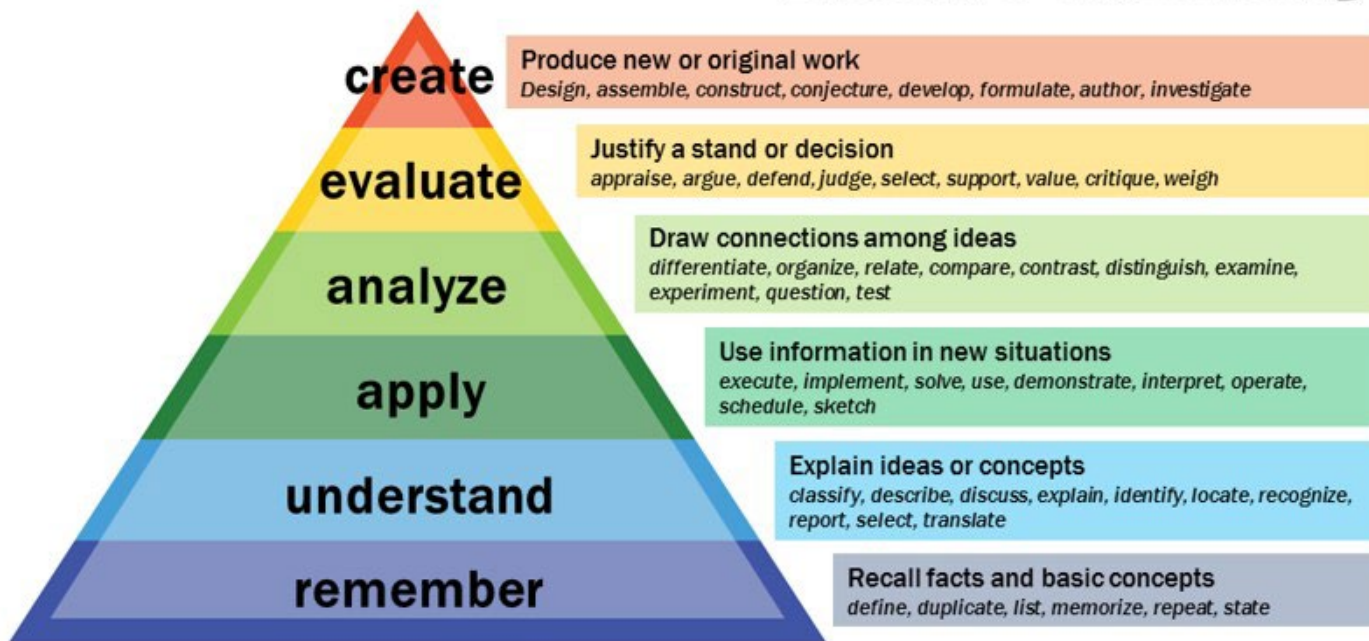
- ▶ Is this course learning objective SMART?

- ▶ Specific?
- ▶ Measurable?
- ▶ Attainable?
- ▶ Relevant?
- ▶ Time-based?



Remember Bloom's Measurable Verbs

Bloom's Taxonomy



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Let's Make it SMART!, cont.

- ▶ **Workshop Objective:** Describe the components of a SMART learning objective

- ▶ **Course:** *Intro to the History of Public Health Vaccine Campaigns in the U.S.*
- ▶ **Objective:** At the end of this course, students will be able to:
 - ▶ **Describe the events surrounding the origin of the smallpox vaccine in the 19th century**

- ▶ Is this course learning objective SMART?
 - ▶ Specific? **YES**
 - ▶ Measurable? **YES**
 - ▶ Attainable? **YES**
 - ▶ Relevant? **YES**
 - ▶ Time-based? **YES**



Learning Objectives: Activity

▶ Workshop Objectives:

- ▶ Modify a learning objective to make it compliant with SMART principles
- ▶ Create a SMART learning objective

▶ Activity 1: *Can you improve upon the following learning objective, to make it SMART?*

- ▶ At the end of this course, students will be able to **know the similarities and differences between various epidemiologic study designs**

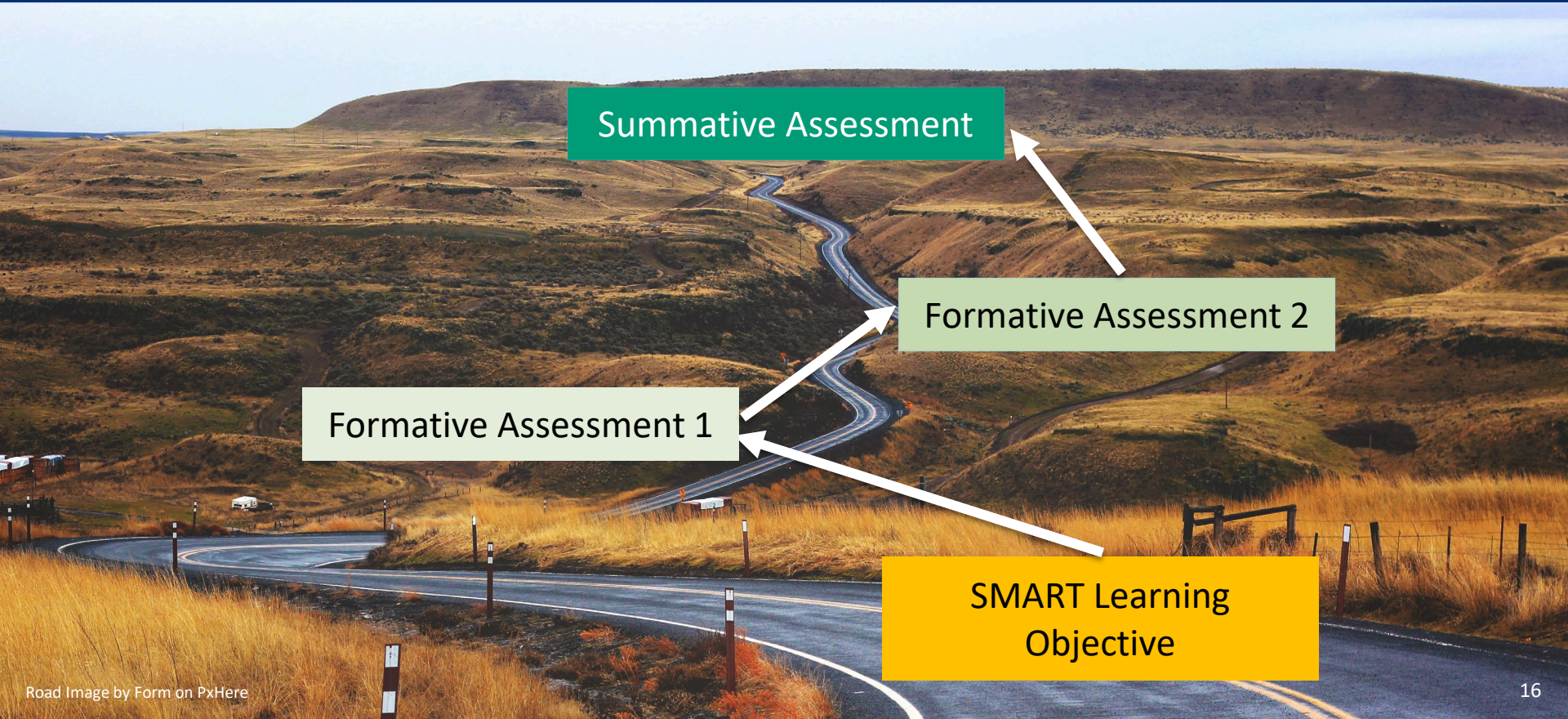
▶ Activity 2: *Write your own SMART learning objective, given parameters of your own course (or one you've previously taught, taken, or envisioned)*



Step 2: Creating Assessments based on LOs



Assessment Purpose



Aligning Assessments

SMART Learning Objective

LO 1: Present a clear, concise, and motivational oral message.



Assessment 1: Present a clear, concise, and motivational oral message in the form of an elevator pitch.

LO 2: Evaluate health information presented through advertising, news, and entertainment.



Assessment 2: Using the provided rubric, evaluate health information presented in the following advertising, news, and entertainment examples.

LO 3: Produce and analyze public health thematic maps, tables, and graphs.

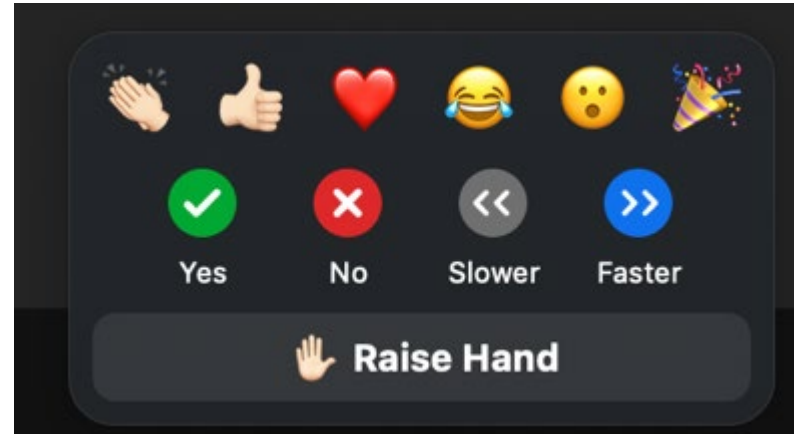


Assessment 3: Using the QGIS software tools, produce and analyze public health thematic maps, tables, and graphs.

Corresponding Assessment

Evaluate the Assessment Alignment Activity Instructions

- ▶ *Workshop Learning Objective*
 - ▶ Evaluate the alignment of an assessment with SMART learning objectives
- ▶ Using the Zoom Reaction buttons, please evaluate the alignment between a given SMART learning objective and its corresponding assessment(s)
 - ▶ Yes = this assessment aligns with the learning objective
 - ▶ No = this assessment does not align with the learning objective



Evaluate the Assessment Alignment Activity 1

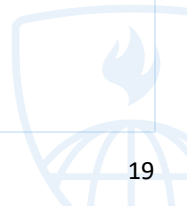
Does this assessment align with the learning objective? YES / NO

▶ **SMART Learning Objective**

- ▶ At the end of the course, students will **describe** the events surrounding the origin of the smallpox vaccine in the 19th century

Formative Assessment

- ▶ Create an annotated timeline that describes the events surrounding the origin of the smallpox vaccine in the 19th century. After receiving feedback, you will use this timeline to work on your Final Presentation.



Evaluate the Assessment Alignment Activity 2

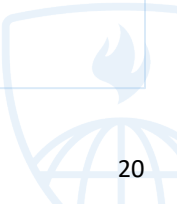
Does this assessment align with the learning objective? YES / NO

▶ **SMART Learning Objective**

- ▶ At the end of the course, students will **describe** the events surrounding the origin of the smallpox vaccine in the 19th century

Summative Assessment

- ▶ For your final presentation, present an annotated timeline that describes the events surrounding the origin of the smallpox vaccine in the 19th century.



Evaluate the Assessment Alignment Activity 3

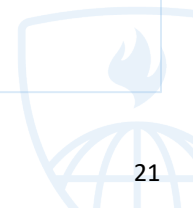
Does this assessment align with the learning objective? YES / NO

▶ **SMART Learning Objective**

- ▶ At the end of the course, students will **describe** the events surrounding the origin of the smallpox vaccine in the 19th century

▶ **Formative Assessment**

- ▶ Part 1: Complete a 10-question multiple-choice knowledge check on identifying the events surrounding the origin of the smallpox vaccine in the 19th century.
- ▶ Part 2: Once you can complete the knowledge check with 100% accuracy, describe each event identified in 1-2 sentences.



Evaluate the Assessment Alignment Activity 4

Does this assessment align with the learning objective? YES / NO

▶ **SMART Learning Objective**

- ▶ At the end of the course, students will **describe** the events surrounding the origin of the smallpox vaccine in the 19th century

Summative Assessment

- ▶ Select two significant, related events surrounding the origin of the smallpox vaccine. Give a 5-minute oral presentation that explains how these events are related and how they impacted the overall progression of smallpox vaccine usage in the 19th century.



Now it's your turn! Write an Assessment for the LO

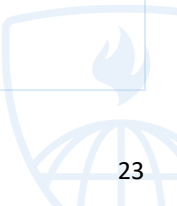
- ▶ *Workshop Learning Objective*

- ▶ Write an assessment to address a specific SMART learning objective

- ▶ **SMART Learning Objective**

- ▶ By the end of this course, students will be able to identify two international health programs and discuss their history

- ▶ How would you assess this learning objective?
Please take 2 minutes to write an assessment that aligns with the given learning objective.



Step 3: Identify Course Content that Aligns with LOs



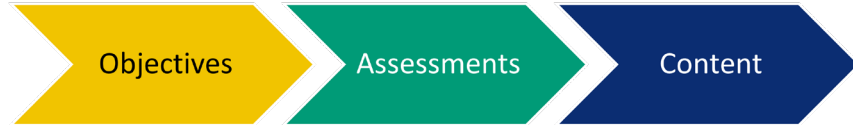
Photo by S&B Vonlanthen on Unsplash

- ▶ What do students need to know to accomplish the LOs?
 - ▶ Prior Knowledge
 - ▶ Factual Knowledge
 - ▶ Procedural Knowledge
 - ▶ Strategic Knowledge



Do you have to start over? Not exactly...

- ▶ Examine your learning objectives – make them SMART!
- ▶ Adjust your assessments where needed, to ensure they align with your new, SMART LOs
- ▶ Make sure your content leads students to success on the revised assessments



Common Pitfalls!

- ▶ Failing to assess one of your LOs
- ▶ Having a LO that is not measurable
- ▶ Falling back into old habits, e.g., working on content before assessments





References and Resources

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