SUGAR-COATED SCIENCE
LEARNING IN MOTION

A BEGINNER CRASH COURSE IN VIDEO AND ANIMATION FOR THE MEDICAL EDUCATOR

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I do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Je n’ai aucune affiliation (financière ou autre) avec une entreprise pharmaceutique, un fabricant d’appareils médicaux ou un cabinet de communication.
INITIAL POLL

Who has been involved in creating an educational video of any kind?
Who here has been asked to create one or give feedback on one by a colleague or trainee?
Who here has experience in basic video editing?
Who considers themselves to have at least minimal basic drawing skills?
TOPIC PROMPT
LEARNING OBJECTIVE

To apply basic skills of film and animation to future educational media creations.
WHAT WE WON’T TEACH TODAY

- How to draw
- Extensive animation skills
  - But! Our handout will provide a helpful guide to these resources!
WHY MAKE A VIDEO?
WHEN TO MAKE A VIDEO

Considerations:

• What already exists?
  • Other videos?
  • Great lecturers on the topic?
• What resources are at your disposal?

The Ideal Topic:

• “minimal, foundational, and evergreen”
• Fundamentals needed before more complex ideas
• Learners find difficult or have misconceptions
• Can be represented visually
• Causal pathways/relationships
WHY MAKE A VIDEO:
COGNITIVE LOAD
WORKING MEMORY
INTRINSIC
EXTRINSIC
GERMANE
WHY ANIMATION?
WAIT—WHAT IS ANIMATION?
Dual Coding Theory and Multimedia Learning

SYNERGY OF THE SENSES

- Visual Input
- Auditory Input
- Expanded working memory
WHAT IT TAKES TO GET STARTED

- Proficiency as an artist
- Motivation
- Patience
- Open-mindedness
WHY ANIMATION:
ANIMATION IN MED ED
HIGHLIGHTING SKILLS

#1: CHARACTER DESIGN
ADVANCE ORGANIZERS

- Advance = early
- “Ideational scaffolding”
- Abstract
- Relatable

Venn Diagrams are an example of Advance Organizers

Ausubel, 1978
CHARACTERS AS ADVANCE ORGANIZERS
• **Personalization Effect**: Student depth of learning (comprehension) is enhanced by conversational style narrative

“Cana Gliflozin (aka Gli Flo) is a hip British celebrity seagull with the outfit of an arrogant pop star, and holding his sweet tea, who loves to promote his product and denies that he ever beat anyone up to cause fractures or amputations.”
CHARACTER DESIGN: BREAKOUT EXERCISE

• Step 1: Create your “One liner”

• My character is a [Adjective][noun] with a [feature #1] and [feature #2], who loves _______ and hates _______.

• May be a caricatured cell, protein, pathogen, etc, or may be anthropo- or zoo-morphic.

Example: “Cana Gliflozin (aka Gli Flo) is a hip British celebrity seagull with the outfit of an arrogant pop star, and holding his sweet tea, who loves to promote his product and denies that he ever beat anyone up to caused fractures or amputations.”
CHARACTER DESIGN: BREAKOUT EXERCISE

Step 2: ”The 4 D’s” of Design
Discover (references)
Design or Dream (Trial and Error)
Develop (Refine your design)
Deliver (the finished product)

CHARACTER DESIGN: BREAKOUT EXERCISE

• Step 2: Practice the Ds!
  • Find references
  • Doodle your character a few ways
  • Discuss what you like best and “develop”
HIGHLIGHTING SKILLS

#2: PLANNING YOUR SCENE
(COMPOSITION & STORYBOARDING)
PLANNING YOUR SCENE

• Be deliberate. Be thrifty.
• Work up front pays off
• Planning = Teamwork
PLANNING YOUR SCENE: COMPOSITION

Foreground, Midground, Background
PLANNING YOUR SCENE: COMPOSITION
PLANNING YOUR SCENE: COMPOSITION

- Foreground, Midground, Background
- Rule of 3rds and Asymmetry
PLANNING YOUR SCENE: COMPOSITION

• Foreground, Midground, Background
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PLANNING YOUR SCENE: COMPOSITION

• Foreground, Midground, Background
• Rule of 3rds and Asymmetry
• How else can you emphasize what’s important?
PLANNING YOUR SCENE: COMPOSITION

- Foreground, Midground, Background
- Rule of 3rds and Asymmetry
- How else can you emphasize what’s important?
  - Size
PLANNING YOUR SCENE: COMPOSITION

- Foreground, Midground, Background
- Rule of 3rds and Asymmetry
- How else can you emphasize what’s important?
  - Size
  - Color
  - Focus / blur
PLANNING YOUR SCENE: COMPOSITION

...and then there’s motion...
PLANNING YOUR SCENE: COMPOSITION
Do you cause hypoglycemia?
@paintonmycanvastrial
STORYBOARDING

• Don’t make a masterpiece!
• Stick figures are great
• Arrows to show motion

Twitter question asked. Show SGLT2 channels.

Show birds. Empa and Cana jump down to lower level.

Show GFR cutoffs with lower river level to GFR 30 from 60.

Nervously evades question about metformin...

What about Dapper? Zoom on Dapper pretentiously staying at GFR 60.

Show wide shot and mention reno-protectiveness.
IT TAKES A VILLAGE
YOUR GROUPS MAY BEGIN TO IDENTIFY...

- Content Experts
- Expert Educators
- Artists
- Storytellers
- Visionary Directors
STORYBOARDING: BREAKOUT EXERCISE

• Identify one specific learning objective
  • Example: “Learners will recall the genitourinary side effects of Canagliflozin.”
• In 3-6 frames, achieve that learning objective
• Assume you have a “blank check”
• Use at least one motion arrow, and at least one other accent or emphasis, one tight shot, one wide shot
GROUP SHARE

AND GROUP FEEDBACK
REFERENCES


