THE HEALTH SCIENCE Educator

Tips, ideas and opinions for Health Science Education

October 2020

VIRTUAL CLASSROOM EDITION

A free publication for professionals who choose to make a difference in the classroom – or working from a home office.

You inspire the heroes of healthcare!

The mark of an educated mind is to be able to entertain a thought without accepting it.

Aristotle

★ EDUCATION NEWS: *WILL THE COVID-19 PANDEMIC CHANGE EDUCATION?*

Yes and No.

I've been a teaching assistant (in my kitchen) for my husband's virtual Government and Economics classes since March. When this school year started back, he had four in-person and two virtual classes. As someone who listens to his struggles daily and helps with instructional design, I get a sense of the challenges he faces, and some of the solutions, that are a part of virtual learning.

What hasn't changed?

Intended learning outcomes haven't changed. We always needed to plan our instructional strategies based on what we want our students to do with the information once they master it.

What has changed?

My husband's instructional design strategy used to be:

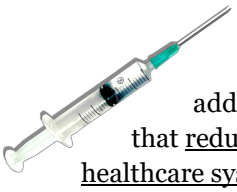
Here is what is different.

1. He thinks more about options when planning instruction.
2. He has learned to effectively use technology to support instruction and interaction with his students.
3. He looks for more instructional videos online, and he's pretty shocked at the number of great resources he finds. High quality videos use images to illustrate important points more effectively than he can in a lecture.
4. He considers student happiness. When I suggest something, he'll ask "Do you think they'll like that?"
5. He assigns more projects with small parts to be turned in frequently. His students don't fall behind - and they feel a sense of pride when the project is complete.

★ HEALTH SCIENCE NEWS: *Flu Shots*

Have you talked to your students about flu shots?

Why should I get one?

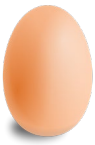


Obviously, our students should get a flu shot to protect their health. But fall amd winter 2020-21 brings an added challenge – the COVID-19 pandemic. The CDC believes that reducing the cases of seasonal flu will reduce the strain on the healthcare system that will result from the pandemic.

What do I need to know about flu shots?

Here is a summary of the facts and questions:

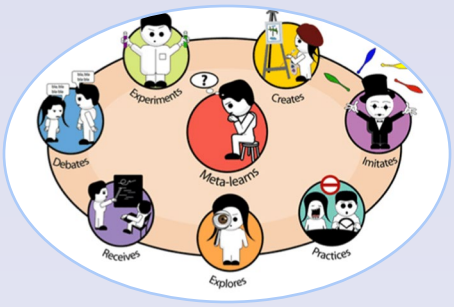
1. Antibody protection is present two weeks after the injection.
2. Researchers create a new flu shot every year, depending on the strains of influenza virus that will be most common in the upcoming season.
3. Ask your students: What is a quadrivalent flu shot? (Encourage them to try and figure it out. It means four ingredients, or in this case, four flu strains.)
4. Different influenza shots are licensed for different age groups. A pediatric version makes sense, but did you know that a different vaccine is licensed for ages 65 and older?



5. Does it matter if someone has an egg allergy? YES! The standard-dose quadrivalent vaccine is manufactured using a virus grown in eggs. (There is an egg-free vaccine available that is grown in a cell culture.)
6. A nasal spray vaccine is available for use in non-pregnant individuals ages 2 – 49.
7. Should EVERYBODY get a flu shot? No, but when in doubt, your students should talk to their doctor to determine their status.

8. The best time to get a flu shot is mid to late October - ready when flu season picks up and the vaccine's effectiveness should last the entire flu season.
9. The flu shot does not prevent COVID-19.
10. And…if you have a flu shot, it is possible to develop the flu if exposed to a flu virus not included in the vaccine.
11. However…flu vaccination usually reduces the severity of illness in people who are vaccinated but still get sick.
12. The bottom line is this – the flu vaccine will **reduce the strain on the healthcare system** by preventing millions of illnesses and flu-related doctor visits this year.

For more information, visit the CDC website at https://www.cdc.gov/flu/prevent/keyfacts.htm



Learning by doing: Projects

Problem-based learning, project-based learning, authentic learning, task-based learning, learner-centered instruction…

What's the difference, and does it matter?

The demands of virtual learning are many. The assignment of projects can be a successful approach by putting more of the responsibility of learning and doing on the student.

Assigning a project is not exactly "project-based learning" but can include some of the positive elements of project-based learning.

When creating a project, keep the following points in mind:

1. Make it a real-world problem that might actually affect teenagers. The more real it feels to your students, the more likely they are to feel engaged in finding a solution.
2. When assigning a project, make the project student-centered by giving them as much control as possible. You can select the destination, but let students figure out how to get there.
3. Have checkpoints (assignments due) along the way. The benefit is that incremental assignments will feel easier than one large project.
4. Don't be afraid to integrate other subjects or skills. If your students learn something extra, that's a good thing.
5. When possible, include social learning by creating an opportunity for students to share their projects – either with each other or with an audience.

Health Science Food Truck Challenge

Student Challenge: Create a virtual food truck that will serve people with specific health issues who require a therapeutic diet.

Intending Learning Outcomes:

1.2.1 Describe etiology, pathology, diagnosis, treatment, and prevention of common diseases and disorders. (Therapeutic diets)

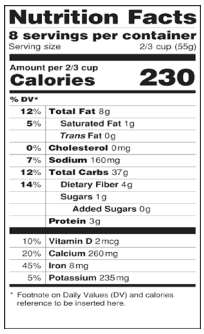
1.3.1 Demonstrate competency using basic math skills and mathematical conversions as they relate to healthcare. (Mathematic operations needed to produce the values on the nutrition facts label.)

2.1.1 Model verbal and nonverbal therapeutic communication. (oral presentation)

9.1.1 Promote behaviors of health and wellness. (nutrition)

Project Elements:

1. **Step 1: Therapeutic diet**
   a. Your teacher will let you know if you may select a specific diet or if one will be assigned to you.
   b. *Options include but are not limited to:*
   - Low sodium diet
   - Low calorie (weight loss) diet
   - High fiber diet
   - Bland diet
   - Food allergen (no dairy, eggs, nuts)
   - Diabetic diet
   - Gluten free diet
   - Renal diet
   - Low fat/low cholesterol diet
   - Lactose free diet
2. **Step 2: Select a theme.**
   a. Your food truck must have a theme. Your theme can be a movie, TV show, musical group, travel destination, college, pastime, hobby, etc. Choose whatever theme you want.
   b. All aspects of your project must fit your theme – from your truck design and food offerings to the names of your dishes. Your ideas must be cohesive, tell a story, and fit your theme.
3. **Step 3: Plan your menu.**
   a. You will design and (virtually) prepare three dishes – a signature dish, a side dish, and a dessert.
   b. All three dishes must relate to your theme and follow the guidelines for your assigned therapeutic diet.
4. **Step 4: Create nutrition labels.**
   a. Create a nutrition facts label for each of the items on your food truck following the FDA guidelines.
   b. To do this, you will need to do the math. Determine the exact amount of each ingredient in each dish and add up the amount for each nutrient.



Nutrition Facts
8 servings per container
Serving size 2/3 cup (55g)

Amount per 2/3 cup
Calories 230

% DV*	
12%	**Total Fat** 8g
5%	**Saturated Fat** 1g
	***Trans* Fat** 0g
0%	**Cholesterol** 0mg
7%	**Sodium** 160mg
12%	**Total Carbs** 37g
14%	**Dietary Fiber** 4g
	Sugars 1g
	Added Sugars 0g
	Protein 3g
10%	**Vitamin D** 2mcg
20%	**Calcium** 260mg
45%	**Iron** 8mg
5%	**Potassium** 235mg

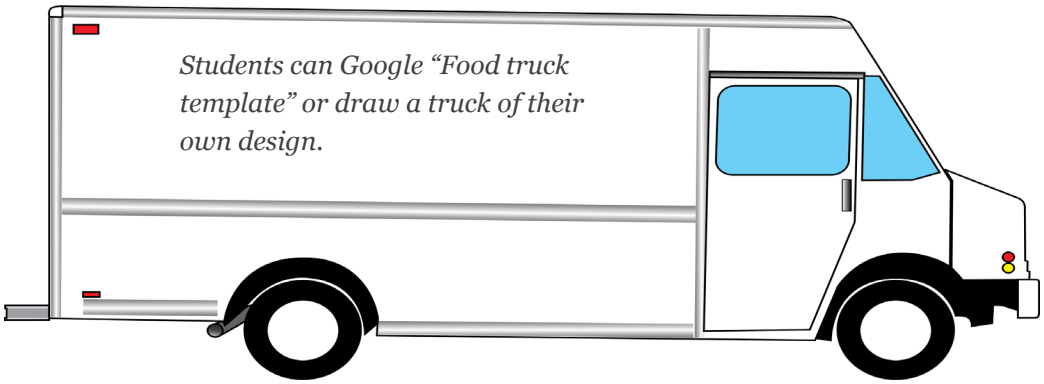
* Footnote on Daily Values (DV) and calories reference to be inserted here.

5. **Step 5: Design your truck.**
   a. Your truck should illustrate your theme and include the names of your products, the specific type of diet supported by your dishes, and a short description of the population your truck is designed to serve.
6. **Step 6: Present (oral presentation) your food truck as directed by your teacher.**
   a. You should be prepared to explain your dishes, how they support your therapeutic diet, and at least one disease or disorder indicated for that type of diet.

NUTRITION LABELS SUMMARY

Theme						
Diet						
Dishes (Names)	Signature:		Side:		Dessert:	
Ingredients (per serving)	Nutrient/g/mg	%DV	Nutrient/g/mg	%DV	Nutrient/g/mg	%DV
	Total fat ____ Saturated fat ___ *Trans* fat ___ Cholesterol ___ Sodium ____ Total Carbs ___ Dietary fiber ___ Sugars ___ Added sugars __ Protein ___ Vitamin D ___ Calcium ___ Iron ___ Potassium ___		Total fat ____ Saturated fat ___ *Trans* fat ___ Cholesterol ___ Sodium ____ Total Carbs ___ Dietary fiber ___ Sugars ___ Added sugars __ Protein ___ Vitamin D ___ Calcium ___ Iron ___ Potassium ___		Total fat ____ Saturated fat ___ *Trans* fat ___ Cholesterol ___ Sodium ____ Total Carbs ___ Dietary fiber ___ Sugars ___ Added sugars __ Protein ___ Vitamin D ___ Calcium ___ Iron ___ Potassium ___	
	Calories		Calories		Calories	

On a separate worksheet, list all the ingredients for each dish and the amount per serving. Then figure out the total nutritional values for each individual serving. Any values that are one or less can be omitted.



Students can Google "Food truck template" or draw a truck of their own design.

Helpful tips: *Make this a weeklong project with a different step due each day.*

Sharing of projects (online or in person) allows peer learning. (Your students will teach each other.)

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NCHSE
National Consortium for
Health Science Education

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We'd love to hear from you! Send us an email and share your experience with using the ideas in this newsletter or let us know what you would like to see in future issues.