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Incorporating Exploratory Writing Assignments for an Intermediate Nutrition Class

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Backward By Design Mini-Study Report: Incorporating Exploratory Writing Assignments for an Intermediate Nutrition Class

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Course Description:

HLED 350 is a science-based introductory to nutrition class, which is designed for Community Health, Kinesiology, and Pre-Nursing majors, and any student who is interested in learning more about nutrition. The overall goals of this course are to help students: 1) discover what factors influence our food choices and how to develop healthy eating habits, 2) learn about the macronutrients and micronutrients – how they are digested and used by the human body and why they are necessary for human growth and survival, and 3) gain a critical understanding of the unequal access to nutritious foods by various subgroups in the United States and how it has influenced people's health.

In the first phase of this course we will explore the factors that influence our dietary behaviors, discover what is new in the USDA Dietary Guidelines for Americans, discuss how to make smart food choices, explore the pros and cons of popular diets, how food is used as medicine, and analyze the impact of water and other beverages on health. In the second phase of this course, we will learn the biology of nutrition and describe the process of food digestion, absorption, and transportation in our body, mainly focusing on macro-nutrients including carbohydrates, lipids, and proteins. We will work as a learning community to answer the following questions: What are the primary functions of the macro-nutrients? What happens inside our bodies when we eat food? How do our bodies break down food and use these nutrients for energy and growth? We will also explore inequities in nutrition and how poverty can impact food access and health. In the third phase of the course, we will build on our understanding of nutrition and discuss the impact of micro-nutrients (e.g., vitamins and minerals) and fasting and caloric restriction on health. Specifically, we will answer the following questions: Where do each vitamin/minerals come from? Why do our bodies need vitamins/minerals? What happens to the body during a fast and caloric restriction? Where does the body receive its energy? What are the pros/cons of performing dietary fasting and how do a person function hours and days without food?

Focus of the Study:

I attended the 2017 Backward By Design (BBD) workshop to gain insights about how to better design a 300 level nutrition class. I have learned a great deal about using the threshold concepts (e.g., Healthy eating habits in individualized. Healthy Eating habits is learned and can be changed.) to develop course goals and students learning objectives. I have also learned and applied the backward design strategies into my nutrition class to create various exploratory writing assignments to facilitate teaching and better engage students to achieve learning objectives.

In particular, I have incorporated several exploratory writing assignments into my 2018 winter nutrition class, which include 1) weekly written reflection, 2) food-challenge reflection (i.e.,

whether they can survive or not with a \$5 budget for a week?), and 3) essay format of exam questions for a variety of controversial nutrition topics.

For this mini-study, I will focus on the “Weekly Written Reflection.” I designed this assignment for students to prepare written responses to the assigned reading materials or educational videos on a weekly basis. In order to achieve these goals, I outlined things that they can include in the reflections including 1) Points in the reading they found inspiring and/or inspiring, 2) Ideas they disagreed with or need clarification on, 3) Applications in the “real world” that the information applies to, and 4) Questions that arose while reading that they want to discuss in class. Although students have the freedom to reflect what they have learned based on the readings/educational videos, I provided specific questions for them to think about while doing the readings for most of the weeks. The following are some samples of the reflection questions:

- 1) *From “net carb” labels to avoiding carbs after training, carbohydrates have been given a bad reputation due to many misunderstandings. Start your reflection by selecting a nutrient dense food that contains a high percentage of carbohydrates. What benefits can people get from eating this food? Then choose one favorite food or drink that provides a high percentage of empty calories. What makes it popular? (e.g., taste, marketing, social economic status, etc.,) What are the negative health consequences of consuming this food? (e.g., lethargy, obesity, diabetes, non-alcoholic fatty liver, etc.,) Back up your reflection with evidence and information from the assigned readings p. 100-123 (UN).*
- 2) *Fat has gotten its bad reputation in many ways. Most people think of fat as a nuisance or even an enemy that is detrimental to their health. But is fat crucial for standard physiological processes and good health? How do the microbes in our intestines affect our fat and its behavior? What should you know about “The Secret Life of Fat”? Dr. Sylvia Tara is a biochemist who has studied fat for many years. As she looked into its functions, she discovered it does much more than merely store energy. As it turns out, fat is metabolically and hormonally active. It communicates continuously with other cells in the body. Fat cells also interact in meaningful ways with the immune system, particularly with T cells. How does it do that, and what are the results? Listen to the Podcast: What Do You Know about the Secret Life of Fat? Come up with at least three surprising or inspiring points you have learned from this podcast. Use 1-2 examples to explain how they are related to your everyday life. Provide references from your textbook (p. 134-154, UN) and other academic sources to support your comments or critiques.*

Evidence of the results:

The purposes of the “Written Reflections” are twofold: 1) Make students accountable for assigned reading, and 2) To facilitate in-class discussion. To make these written reflections more fun, interactive, and reflect their perspectives of nutrition, I have emphasized that no specific “length” required for these reflections. However, their written response should be thoughtful, articulate, informative, and connected with the application of nutrition in real life settings.

In reflection “What happens to student learning when I incorporate a weekly written reflection into a nutrition class? I am delighted with the quality of the work, and the depth of the analysis students have come up. I am also very impressed that many students chose to use visuals,

graphics, and statistics to illustrate their thoughts. I enjoyed reading their reflections. It has helped me to get to know my students better and also helped me assess learning problems on the spot. From the students' perspective, it has created higher levels of class preparation and more in-depth discussion since they have to summarize an assigned reading and discuss it in class.

The results from the course evaluation of this class, however, are mixed. Some students commented that "The written reflections were a great assignment," "Written reflections were very educational and well-planned out. They gave students the opportunity to do research on important nutrition based topics," "The reflections each week increased my learning and were interesting." Few students complained that "They have to spend so much time on reflection work," "The reflections are just busy work," "I wrote more for this course than I did for my upper-division philosophy course," and "It is kind of repetitive to discuss some of the reflection questions in class because they usually read a few of other people's paper before class."

Future Plans

I appreciate students' thoughtful comments about these written reflections. I plan to use these written reflection questions for the future classes based on students' excellent work for this assignment. To improve the efficacy of this assignment, I plan to make the following several changes:

First, I will make it due before the class time but not one day before because one of the students mentioned that "Since it is due on Monday and we have class on Tuesday and Thursday, it makes me feel I have been working on the nutrition reflection all the time." Second, I will make sure to explain to students what I expect from them when I assign these written reflection questions and emphasize that I wanted to use the written reflection questions as "low stakes writing" assignment to reduce students' anxiety about it and to emphasize its function as foundations to explore more complicated ideas. Third, I will make sure to provide some samples of written reflections before they started their own and hoped they would gain a better understanding of I expect them from this assignment.

I appreciate the opportunity of attending this BBD workshop. The strategies I learned from this workshop has greatly improved my confidence in teaching a brand new science-based class. It has also shed light on students' health and deeper understanding about nutrition. I would like to conclude this reflection by using one of my students' comments: "Throughout taking this nutrition class, there have been countless dietary myths that were discounted, leaving me with a truthful, insightful perspective regarding nutrition. The gains from this class not only helped my family and I improve our diet but also bettered my preparation towards my future career-offering a perspective that I otherwise would not see."

Thank you very much for reading!