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Biology: Inquiry-Based Learning Assignment

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CUNY La Guardia Community College

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Designing Information Assignments for Literacy

1. Professor's Name: Richa Gupta
2. Course Name/Section: SCB101.218AB
3. Activity Duration: 21 days
4. Activity Learning Objectives: It is an inquiry-based learning assignment which has the following learning objectives in a step-wise fashion:
 - Objective 1: The student will learn how to frame a scientific question on a subject/topic that interests the student in the field of Biology.
 - Objective 2: How to correctly conduct research, literature survey and find resources to answer that question.
 - Objective 3: How to analyze the results of studies done by other scientists and develop their own rational opinions on important open-ended questions pertaining to our health and everyday life.
 - Objective 4: How to write a scientific research paper that has a logical flow in its different sections: Title, Abstract, Introduction, Methods, Results, Discussion and References. This would eventually help the students in developing a future scientific-career path and written communication skills for any job the student takes up in future.
 - Objective 5: Give a 5-10 mins presentation on their topic of research. This provides the students with an opportunity to develop oral communication skills and lead/participate in group discussions (which could be very important for developing their interviewing skills for future jobs).
 - Objective 6: Make the students learn how to use eportfolio and upload their assignments so that they are available for the entire department to read and review.
5. Activity Description: Describe what the students do.

The students were given 5 topics of open-ended questions in Biology and were given a choice to pick one for their assignment. Alternatively, students were given an option to pick up a topic of their own choice too. The students did research and literature review on

their topic, elected 2-3 papers published in scientific journals to discuss in their assignment and provided a final opinion on the topic. They wrote a scientific paper on the subject that was about 1000 words long. The students submitted a hard copy of the assignment and also uploaded it on eportfolio. Some students voluntarily also made presentations on their elected topic.

6. Vocabulary/Keyword(s):

Genetically Modified Organisms (GMOs)
Three-Parent Children
Stem Cells
Vaccines
Gene Editing Technology

7. Materials and Resources: Provide your instructions, handouts, and links to any other materials students use to do the activity.

They were covered in detail in the assignment instructions provided to the students. The key sources of information and links provided are listed below.

A) To find background material to write the research paper, use the following link and type your topic in the website search bar:

1. <http://www.ncbi.nlm.nih.gov/pubmed>
2. Go to LAGCC Library webpage and click on Library Media Resource Center. Here, you can find books and online articles and even databases on your topic.

B) For a tutorial on how to deposit the assignment, go to:

<http://eportfolio.lagcc.cuny.edu/support/tutorials.htm> and find the section called, "Assessment for Students." Click on the adobe flash button for "Depositing Assessment Artifact in Digication: Instructions for Students." You will see a brief video on how to deposit.

8. Activity: (Insert activity here)

Research Paper Assignment: SCB 101 – Topics in Biology (Maximum of 1000 words)

Think of a topic that resonates with “My Major Connection to Biology” or a topic that “interested you recently in Biology after you heard discussions on a news channel/social media” or a topic that you think is often “misunderstood by non-scientists”.

Examples of Topics (you are free to choose your own different topic also):

1. Genetically Modified Organisms (GMOs)
2. Three-Parent Children
3. Stem Cells
4. Vaccines
5. Gene Editing Technology

Important instructions and guidelines regarding the assignment

I. Due by December 9th, 2015 (Wednesday). You may submit a draft if you want by December 2nd, 2015). You should make a 5-10 mins PowerPoint presentation on your topic (optional) to exchange views and discuss with the class.

II. Total number of points possible – 10 points (will account for 15% of your total grade). You should deposit/upload your assignment on ePortfolio (See instructions below).

For a tutorial on how to deposit your assignment, go to:

<http://eportfolio.lagcc.cuny.edu/support/tutorials.htm> and find the section called, “Assessment for Students.” Click on the adobe flash button for “Depositing Assessment Artifact in Digication: Instructions for Students.” You will see a brief video on how to deposit.

III. How to find background material to write the research paper? Once you have decided a topic and you want to find previous research done on it, you can use the following resources:

A) Go to LAGCC Library webpage and click on Library Media Resource Center. Here, you can find books and online articles and even databases on your topic. You could also schedule a meeting with a librarian here to help you with your research on the topic.

B) Use the link (<http://www.ncbi.nlm.nih.gov/pubmed>) to find and download some freely available articles published on your topic in highly prestigious scientific journals.

IV. Specific instructions on how to prepare the Research paper

A) Type the research paper in 12 point font, Times New Roman. Include your name, Major and Date of submission in the upper right hand corner of the first page. Title your Research paper. Include at least 2-3 journal or book citations in APA format towards the end in a Reference section. The total length of the paper should not exceed 1000 words; single spaced (about 2 pages or so). Grammar and Spelling does count. Please proof-read your paper before you submit.

B) The Research paper should have the following sections (in this order):

- a. **Title** (Topic Statement/Question being addressed)
- b. **Abstract** (Write a brief summary on your topic- major question asked, findings obtained and conclusion in about 150-200 words)
- c. **Introduction** (Background on the topic from a Biology angle. You should try and cite some references here also besides the next sections)
- d. **Experimental Procedures** (Methods used in the studies cited)
- e. **Results and Conclusions** (Major findings of the studies you cited)
- f. **Discussion** [Discuss here what is your final opinion on this topic after reading the different studies you cited and what you think is the significance/implications of the research carried out (It's relevance to society, economy)]
- g. **References** (Cite the references in APA format)