‘Among Others’: How to (Really) Make Your Classroom More Inclusive

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The following pages are selected inclusive examples from Vela's Award-Winning presentation, "‘Among Others’: How to (Really) Make Your Classroom More Inclusive" for the Center for Excellence in Learning and Teaching on November 7, 2018

Border Crossing
Luis Jiménez, 1989
Creating Inclusive Classrooms (LAS, 2014)

Suggestions

Question 5: Suggestion to make Classroom more Welcoming

1. Do not Single Out (14): Ex. Include everyone in their information so they could ask Q upon any student and the minority or color students wouldn't feel left out

2. Incorporate Diverse Content (12): Ex. Try to have variety in the classroom in terms of how the material is presented. Take into account that there are many different ways that students learn.

3. Promote Diversity (10): Ex. Speaking more on the issues that minorities face. Stopping to point out minorities and/or international students.

4. Student Participation Early and Often (7): Ex. I would suggest listening and making them feel included in discussions rather than them remaining quiet. A lot of diverse students are shy but conversing with them keeps them entertained in the class.

5. Diversify Group Membership (7): Ex. I'm not sure what the faculty could do. It's mostly just based on the individuals. Maybe include one of every race or so in a group.

6. Learn about the Individual (6): Ex. Please don't expect any of us to feel any certain way because of how we look. I'm not a representative for Asian Americans nor is any Caucasian/African American an automatic rep. for their 'race'. We don't want to shy away from the topic, we just want an opportunity to speak our minds, not the minds of other people who might look similar to us.
7. Faculty Receive Education (5): Ex. The teachers and coaches themselves need to be trained and take required courses on how to interact with students from different races, religion, and personality traits.

8. Be Open Minded, Friendly, Approachable (6): Ex. I think being friendly and coming off as approachable is always a good place to start. If, as a student, you feel your prof is nice and you can go talk to them, that makes the class more inclusive in itself. If the professor has an attitude or ego than its a turn off and can make talking to him or her more difficult.

9. International Student Considerations (8): Ex. The faculty should be more patient about international students, because for many of them, their first language is not English.

10. Faculty Good Job no suggestion (39): Ex. I felt like most of my professors welcomed me into their classrooms. Some teachers definitely outdid themselves in making a connection with the students and putting more effort in learning the material instead of what grade we deserved.

11. Other Students the Problem no suggestion (5): Ex. The faculty isn't really the issue in this case, but the individuals/classmates are from what I've observed, the lecturers have provided us into a more open-minded environment.
ISU Chemistry Teaching: The Numbers

Annually (Joe Burnett)

13,600 undergraduate students

244+ half-time teaching assistants

train 70+ new teaching assistants
Inclusive Classroom Content

- Increase awareness among majority students about the world’s richness of diversity
- Facilitate conversations about multicultural and/or difficult topics
- Make everyone feel included, valued, considered
5. On a recent visit to Incredible India, Dr. V drank a lot of Chai. While on the road between Delhi and Chandigarh, Chai was served on ancient looking metal cups. Metal cups could potentially leach out metal ions such as Fe$^{3+}$ and Cr$^{3+}$. If a large amount of these two ions leached out into Dr. V's roadside Chai, its pH was most likely:

a) Acidic, because transition metal cations and their salts easily react with water and facilitate the release of protons (H$^+$).

b) Basic, because transition metal cations easily react with hydroxide ions (HO$^-$).

c) Neutral, transition metal ions do not have any significant acid-base properties.

d) Don't know, but Dr. V should have carried Tums with him.
7. Horchata, a common beverage throughout Latin America, Spain and the Southwestern United States, is made of ground almonds, sesame seeds, rice and barley. A jar of horchata is found to contain 100 g of sugar (180 g/mol) in 1000 mL of water. What are the Molar and molal concentration of sugar in horchata?

(a) 0.55 M and 0.55 molal
(b) 5.5 Molar and 0.55 molal
(c) 5.5 Molar and 55 molal
(d) 0.55 Molar and 5.5 molal
8. Jennifer, Darius and Pat are making flan together. According to their favorite food network tv show, the critical step is to steam cook the curd over boiling water for half an hour. However, instead of using pure water, they used a 30% by mass aqueous solution of NaCl (58.44 g/mol molar mass) to steam-cook their flan. What temperature did this process occur at?

(a) 107.4 °C
(b) 3.7 °C
(c) 103.7 °C
(d) 7.4 °C
9. Maria is a recent Iowa State graduate who works as a quality assurance engineer at a spiffy new biodiesel producing facility in Nevada, Story County, Iowa. Current regulations specify that the residual triglyceride content in the final product must be no greater than 0.0100 molal. Express this concentration in terms of percent (%)triglyceride by mass. (Triglyceride has a molar mass of 807.30 g/mol)

(a) 8%
(b) 0.008%
(c) 0.8%
(d) 0.004%
10. 'Agua Mate' is a strong, bitter tea that is very popular in Argentina, Uruguay, and Chile. Each 100 g of Mate contain approximately 0.40 mg of thiamine, 0.8 mg of riboflavin, and 4 mg of iron. The content of each one of these nutrients can be expressed as:

(a) 4000 ppb thiamine, 8000 ppb riboflavin, 40 ppm iron
(b) 4 ppm thiamine, 8 ppm riboflavin, 40 ppm iron
(c) 4 ppm thiamine, 8000 ppm riboflavin, 40 ppb iron
(d) 4000 ppm thiamine, 8000 riboflavin, 40000 ppm iron
13. Carmine is a natural red dye extracted from cochineal (*Dactylopius coccus*), a cacti burrowing insect native to tropical and subtropical Central and South America. Cochineal produces carmine to deter predation by other insects. Carmine is primarily used as a food colouring and for cosmetics, especially as a lipstick colouring. A solution of 5.00 g of carmine in 0.100 Kg of benzene freezes at 4.98 °C. What is the approximate molar mass of carmine?

(a) 49.23 g/mol
(b) 468.8 g/mol
(c) 51.40 g/mol
(c) 492.3 g/mol
Inclusive Example on Food and new info

To make rhubarb pie, Kristiana starts by removing the leaves from rhubarb. These contain poisonous substances such as oxalic acid, a nephrotoxic substance (damaging to the kidneys). A recent article in the journal *Nephrology, Dialysis and Transplantation* showed that citrate greatly speeds up the crystallization of CaC$_2$O$_4$, the main constituent of kidney stones. Therefore:

a) CaC$_2$O$_4$ is a catalyst that lowers the activation energy of citrate crystallization
b) Citrate is a catalyst that lowers the activation energy of CaC$_2$O$_4$ crystallization
c) Citrate and CaC$_2$O$_4$ react with each other to produce kidney stones
d) People should never eat rhubarb pie
In 1995, Paul Crutzen, Mario Molina, and Sherwood Rowland shared the Nobel Prize in Chemistry for their discovery that chlorofluorocarbons (CFCs) deplete the ozone layer. Other anthropogenic (generated by human activity) gases such as nitric oxide (NO) also deplete ozone ($O_3$), according to the following mechanism:

$$O_3 + NO \rightarrow ONO + O_2$$
$$ONO + O_3 \rightarrow 2O_2 + NO$$

In this mechanism:

a) NO is an intermediate and ONO is a catalyst
b) Both NO and ONO are catalysts
c) NO is a catalyst and ONO is an intermediate
d) Both NO and ONO are intermediates
Inclusive Example - Learning Environment

https://news.las.iastate.edu/2016/11/11/the-power-of-portraits/