

Assessment Plan
Real World Science
Data Analysis and Type 2 Diabetes

The assessment plan for this module includes multiple ways for students to display their understanding, and the work is formative as well as summative. The types of assessments include the following: peer discussions (with rubric criteria), two short, online choose-one multiple choice quizzes that allow them to retake the quiz until there is mastery, creation of a pamphlet, flyer, infographic or visual/auditory file explaining the content they are to learn, an exercise where they are to demonstrate their ability to understand a scientific journal article by finding their own science article to summarize and finally a reflection assignment where they are asked to reflect on what they learned and how they feel about what it is they've learned.

The online quizzes are designed to solidify their understanding of the content. They consist of straightforward questions that require understanding of the video or reading, which will have assistive technology options like close captioning and alt tags. The peer discussion assessments are to appeal to their social side and also are designed to help me understand what they know and discussion of course, also allow them to grow further from the interaction from their peers in the class. The pamphlet, flyer or graphic is an assessment that allows them to be more creative and hopefully have some fun with it - it is an assessment meant to engage the students while also allowing me to see what they've learned. Finding their own article is an assessment that also serves as a connect activity, which allows me to learn more about their individual interests. It gives them the opportunity to take what they've learned and translate it into their own lives and the hope is that they will do so in a meaningful way - everyone knows someone with an illness, for instance. Hopefully they will find and analyze some research that relates to them or someone they love and will empower them to become more knowledgeable about the disease or treatment.

The assessments will incorporate universal design principles in the following ways:

Online quizzes will have audio options - users can listen to the text if they need to and the answer options will also have audio. Students can take their time with the quizzes - no time limit and they can retake them as many times as they'd like. This fits with UDL

Peer discussions - the students will have the option to write or make an audio or visual file of their comments.

Video quizzes - again to meet the universal design requirements, I will need to have close captioning or a transcript available for students with disabilities where they either can't follow along auditorily.

Pamphlet/Graphic/flyer and finding their own research - address the the universal design requirements that ask designers to provide options to recruit interests.

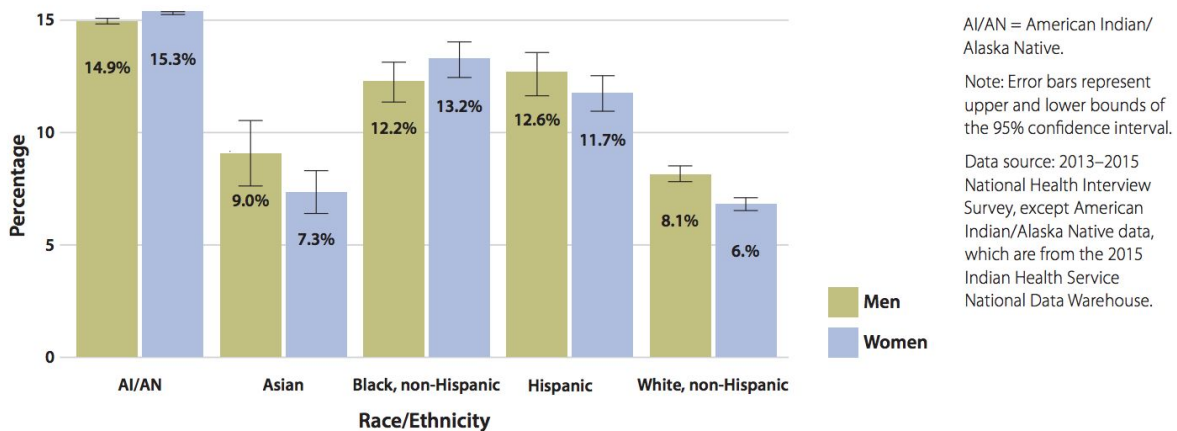
Authentic Assessment Example

Data and Research on Prevalence, Causes and Treatment of Type 2 Diabetes

Directions: Following the data, there are some interactive questions for you to attempt after you digest all the information in each graphic. Try your hand at it - it's fun to figure these data graphs and tables out!

Figure 1 was taken from the U.S. Center for Disease Control 2017 National Diabetes Statistics Report.

Figure 1. Estimated age-adjusted prevalence of diagnosed diabetes by race/ethnicity and sex among adults aged ≥18 years, United States, 2013–2015



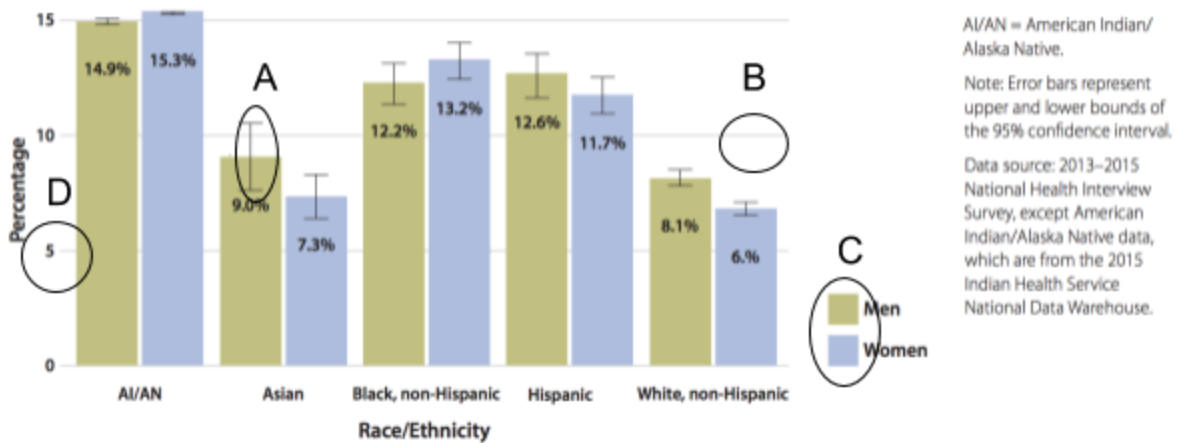
Formative question with feedback would go here but I don't know what app or software to use to embed this right in this document??!! Maybe google forms....

1. Which two ethnic groups have the highest prevalence of Type 2 Diabetes overall?
 - a. Asian and Black, non-Hispanic
 - b. American Indian and Hispanic
 - c. Black, non-Hispanic and Hispanic
 - d. American Indian and Black, non-Hispanic
2. In which ethnic groups do the women have slightly lower rates of diabetes than the men in the same ethnic group?
 - a. American Indian, Asian and White, non-Hispanic
 - b. Asian, Black, non-Hispanic and Hispanic
 - c. Asian, Hispanic and White, non-Hispanic
 - d. American Indian and Black, non-Hispanic

3. If 13.2% of 100 people have diabetes, how many people is that?
 - a. 1.32 people on average
 - b. About 13 people because $.132 \times 100$ is about 13 people (rounding down)
 - c. 132 people because 100 times 13.2 is 132.
 - d. About 1 person, because 1.3 is less than 1.5 so I'm rounding down.

4. Which of the following circled parts of the graphic do you think show "error bars"?

Figure 1. Estimated age-adjusted prevalence of diagnosed diabetes by race/ethnicity and sex among adults aged ≥ 18 years, United States, 2013–2015



- A. Letter A
- B. Letter B
- C. Letter C
- D. Letter D