Learning Activity 1: Teaching Notes for Word Play in a Plural Society
Stem Cells & Policy: Values & Religion
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This activity is designed to introduce the problems of language, understanding, and affect that shape discussion of human embryonic stem cell research (hESCR). It's often the case that the biggest challenge to classroom discussion of difficult topics is the failure of students -- and occasionally, of instructors -- to recognize that words do not necessarily have the same meaning and emotional valence for others that they do for us. As a result, when trying to explain ourselves or to persuade others, we use words that confuse or offend those who are listening. This exercise is intended to raise awareness of the connotations and emotional valence that words have for us, and to make us see that others often weigh the same words differently. It does this by eliciting student responses and engaging them in guided discussion that explores those differences.

In class, students are asked to respond to a set of words, some of which are used in every day language and others are likely to arise in discussions and debates surrounding hESCR. The activity is designed as a teaser, and formal assessment or evaluation is not necessary. Rather, this provocative activity quickly reveals the range of definitions associated with these words and the lived experiences that shape those definitions.

STUDENT LEARNING OUTCOMES
- Recognize that words do not always have shared meaning in groups with diverse experiences.
- Explore the emotive value behind words and their influence in dialogue, discussion, and debate.
- Investigate how each individual arrives at meaning based on personal or community value systems.

FORMAT
The exercise presents a list of words in alphabetical order to avoid the appearance of a meaningful or suggestive organization in their arrangement. Using class time, students are asked to evaluate the emotional charge the word has for them – positive, negative, or neutral. Students are urged not to think too long about their responses. They should be encouraged to focus on their "gut" reaction rather than try to intellectualize their response and should use no more than 15-20 seconds per word. Instructors should assure students that they will have time to discuss and explain responses in class. When complete, the instructor tabulates the responses and projects the results for class viewing.

The activity can be conducted individually or with pairs or small groups of students and the results reported out to the larger class. In our class settings we have students respond individually using the chart and then report the results quantitatively on a board leaving time for discussion, which naturally emerges when students begin to see the diversity of thinking in a single classroom.

Instructors should situate the activity to support open dialogue. This can be achieved by reminding students that diversity of opinion is healthy and can lead to new understandings and tolerance for other points of view. Reminding students to question the idea, and not the person, is important and that the goal is not to persuade others to accept our definition but, rather, to become aware of how our language might be interpreted by others and they ways in which language can frame dialogue, discussion, and debate. The instructor should encourage students to take responsibility for explaining how they arrived at a particular definition.

Discussion should focus on those words that trigger the most polarizing responses. However, rather than dwelling on the emotions triggered by these words, instructors should guide the discussion to the problem of defining the words that trigger these responses. They should NOT use a dictionary when doing so, since one of the points of the exercise is to raise awareness that the meaning of a word is governed by usage, and that usage varies. If students substantially agree about the definitions of a word, but still diverge in their reaction to it, they should be encouraged to explain what features of the definition are appealing or troubling to them. If

they disagree about what a given word means, how would they resolve the disagreement? Is there any authoritative source that would determine the issue? Or should this even be attempted?

Instructors should be mindful that words one might think have shared value and meaning often result in a range of responses. For instance, "sacred" in our experience has led to a 15-20 minute discussion of what this word means outside of the religious sphere. Similarly, instructors may be surprised by the fact that many students are not familiar with the word "civics." Perhaps more nuanced, are students' response to the words "consensus" and "individual." For students coming from under served communities, or those that have strong cultural ties, "consensus" may be seen as a positive, while "individual" may be seen as a negative or selfish attribute. Lastly, some words will have a specific resonance in a course centered on stem cell research and those include: potential, inalienable, vulnerable, and waste. Here, these words may reflect the characteristics of a stem cell, a human subject, community experiencing health or economic hardship, or a biological resource that was previously considered "waste" and now considered a "commodity."

Depending on responses, other words might be worth special consideration. For example, in one class, the inclusion of the word "nature" led to a discussion of 'natural law. In this particular instance, a student noted he was learning that "natural law" was racist and sexist in another course. The authors of these notes pointed out that there were grounds for disagreement. (The "inalienable rights" of the Declaration of Independence are grounded in a natural law argument, and in "Letter from a Birmingham Jail," Martin Luther King famously defended his campaign of civil disobedience on the basis of "natural law.") Ultimately discussion turned to different ways the word "nature" has been used and understood. While the next potential discussion point has not occurred in this instructor's experience, it seems likely that some students would assume that "natural law" is a rough equivalent to scientific theory (for example, Newton's Laws of Motion), and might not be familiar with the concept of "natural law" in moral philosophy and theology. The most desirable learning outcome in this sort of discussion is that students see that reasonable disagreement occurs even among academics.

The activity can serve as segue to lectures or discussions focused on science policy, philosophy, and ethics and can also be used in seminar courses to explore the relationship between science and other areas such as politics, cultural studies, and religious studies

ADAPTATIONS

Depending on how advanced the class is, the neutral category might be eliminated and replaced with two others: indifferent and ambivalent. Students would then be invited to explain why ambivalent words provoke both positive and negative responses. If the instructor is interested in looking at the intensity of students' reactions, the categories might eliminated altogether and replaced with a scale running from 0 to 10 (with "10" being the most positive, "0" the most negative, and "6" being neutral).

If the article by Caulfield and Ogbogu is used, the discussion can elicit alternative conceptions or understandings regarding "dignity" and "commodity" as they relate to labor or resources that stem from human bodies and embryos. The level of discussion and the complexity of questions will vary depending on academic background and interest. The activity is designed to have students recognize that committee work, presented in the remaining activities in this Module, will involves individuals with varied expertise, experience, and values and that establishing shared meanings and using specific language is central in policy making. Ruha Benjamin's book *People's Science: Bodies and Rights on the Stem Cell Frontier* published by Stanford University Press in 2013 reviews the challenge of conflicting value systems in the establishment of state policies regarding funding of embryonic stem cell research and frames this within the context of growing health inequities. In advance of her book she authored an article that critically analyzes the publicly-funded venture, the California Institute for Regenerative Medicine (CIRM). Benjamin uses three case studies to illustrate the ways in which individual and community needs are misrepresented by charismatic actors, powerful policy makers, and clinical staff concerned with the conflicting values of the biomedical and patient communities.

FURTHER LEARNING: Instructors and students would benefit from following this engagement activity with Learning Activity 2 that has a specific focus on defining religion, cloning, and commodity. A collection of Discussions Questions, a series of Timelines, and a list of Essential Resources are also available in this module.