Teacher/Viewing Guide

Arab American Stories- Episode 112
Dr. Elias Zerhouni
President, Global R & D, Sanofi

Grade Level: 9-12

Episode Overview:

Growing up in Algeria, Dr. Elias Zerhouni always had lofty scientific career goals. His father was a teacher who instilled the value of education, and a volunteer trip to a remote region of Algeria opened him up to the needs of those less fortunate. While on this trip as a student, Dr. Zerhouni witnessed the health crises that the people of the area were experiencing. He knew then that he had the capability to become a doctor, and that as a doctor he could help people. After medical school, Dr. Zerhouni was introduced to radiology and that area quickly became his new focus. His professors encouraged him to go to America to further study this specialty, so he went to Johns Hopkins University in Baltimore, Maryland. Dr. Zerhouni was shocked to see poverty and urban blight in Baltimore, having grown up with a vision of universal prosperity in the USA. He realized then that his work could benefit people in America too, that there were people in need everywhere.

Dr. Zerhouni became an Imaging Scientist, working to let radiology images better enable doctors to see the conditions inside the body. His work using images for measurement and data collection reduced the incidences of exploratory surgery and was a huge innovation in the field. In 2002, Dr. Zerhouni became the first immigrant to run the National Institute of Health. He was an interesting choice for the position considering the proximity of his appointment to the tragedy of 9/11. Dr. Zerhouni was deeply aware that this public attention could work to improve Arab and American relations. He wanted to give back to the country which helped him reach his goals. At the same time, he wanted to show his own children, as well as all Americans, that Arab Americans can make a contribution here.

Following his tenure at the NIH, Dr. Zerhouni was asked to be a Special White House envoy to the Arab World in science and technology.. He is also the President of Global Research and Development for the international pharmaceutical firm Sanofi. Dr. Zerhouni knows that through scientific innovation, he has a chance to make a difference in the Arab American community, throughout the US, and globally. He has never shied away from an opportunity because of his heritage. He believes that in order to fight negative stereotypes, individuals must come out and prove they have value.

Previewing Questions:
1. Is creativity a valuable asset in science?
2. Are pharmaceutical companies in the business of ridding the globe of disease?
3. How can someone overcome a negative stereotype?

Vocabulary:
1. Innovation: Featuring new methods; advanced and original.
2. Radiology: The science of X-rays and other high-energy radiation, especially the use of such radiation for the diagnosis and treatment of disease.
3. Envoy: A messenger or representative, especially one on a diplomatic mission.
4. Quantitative: Relating to, measuring, or measured by the quantity of something.

Lesson Overview/Review:

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After viewing the segment on Dr. Zerhouni, students should brainstorm important medical advancements over the last century. This can be done as a group activity, having students or the teacher record ideas on a board, or in their own journals.

Journal Option: Have students take a moment to write about a time when they overcame feelings of inferiority and how they accomplished it.

Post Viewing Class Discussion: Conduct a short discussion to synthesize the information they gained from viewing the video segment. Some possible topics:
1. Why is it important to remove personal barriers in order to get innovative results?
2. Why is innovation important in health care?
3. How are science and math universal languages? What does that mean?
4. Why was it important for Dr. Zerhouni to take such public positions?

Activity: For this activity, students research and create a presentation on scientific contributions made by immigrants in America. Students may work in groups of no more than four students. Each presentation must address the following:
1. Scientist name and background.
2. Area of expertise and accomplishment.
3. Why did this person choose their area of focus?
4. How did being an immigrant affect this person and their path to success? (Describe both negative and positive.)
5. Explain how this person is a role model and for whom they set an example.
6. Provide any interesting facts, including those which surprised you or which you think are important for the class to know.

Groups may choose their presentation style (suggestions: slideshow, poster, web page, video, Glogster, iPrezi). Optional presentation to class may also be used as an assessment. At the conclusion of this lesson, students will be asked to write a short response to the following: How can being an immigrant help a person to achieve their goals?

Assessment Ideas: Students will be graded on:
1. Participation in class discussion.
2. Participation in group work.
3. Group research answers.
4. Final presentation (may also include class presentation.)
5. Reflection question.

Explore Online: Use the following resources to allow your students to further explore the topic and the Arab American community.
1. Arab Cultural Center: http://arabculturalcenter.org/
2. Arab American Museum: http://arabamericanmuseum.org/
3. Arab American Antidiscrimination Committee: http://adc.org/
4. National Science Foundation: http://www.nsf.gov/
5. National Institute of Health: http://www.nih.gov/

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Interdisciplinary Options: Science; Psychology; Sociology; Career Education
In this episode, students will see learn the importance of reducing barriers to innovation.

Common Core Alignment:

- RI1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- RI7: Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
- W1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- W2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- W6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- SL1: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- SL2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- SL4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.