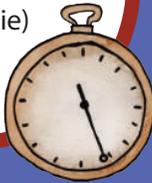


Would Robots Make Good Caretakers?

[Students explore whether robots have or can possess the necessary intelligence to be good caregivers for those who need special care.]

Time Estimate

1 hour (3 hours with movie)



Preparation Thermometer

1



Preparation

Educators may want to do some preliminary research online using search terms such as “robots are caretakers” or “robots as caregivers”, or discover other search terms that yield good information. Videos might engage students, too! If students will not have online access, printing a few key articles or images for student use is recommended.

Materials

- Computers or relevant articles for student research
- Movie “Robot & Frank,” if desired

Glossary

None for this activity



BIG IDEA for Kids

Engineers design machines to help people and often run into questions concerning what that really means. In responding to the needs of society, engineers are designing machines that take care of people that need special care—like elderly people or babies. As with all engineering design, sometimes responding to this need creates new conflicts and ethical dilemmas.



Open the Window

--Do you have elderly relatives in the family—a grandparent, perhaps? What type of special care does this person need? Who provides that care? Would you let a robot take care of this person? Why or why not?

Activity Instructions

1. Ask students to imagine and discuss/write/draw what their family will look like 20-, 30-, or 40-yr from now. Who will need care and who will provide it? Would you leave your parent or grandparent with a robot? Students can expand this to research what their community to look at demographics in their community, state, or country; let them “paint” a picture of our aging population and represent it interesting ways.
2. Students imagine they are engineers working on a design team that is designing robots to take care of the elderly. Ask them to determine how they would start this design and what they would need to know to begin. Students can compile lists of questions and resources in small groups and then aggregate.
3. Students research robots as caregivers through online sources, articles, etc.
4. Students compare qualities of good human caregiver with their perception of machine qualities. What types of human intelligence would robot need to make a good caregiver? Students can explore whether or not robots could learn to become good caregivers.
5. Students watch the “Robot and Frank” movie (2012), in which a family hires a robot to take care of their elderly father. [Note: this movie is rated PG-13 and many not be suitable for all children. However, it’s a great fit for this activity and topic. If not appropriate for kids, it’s still a great watch for educators!] A trailer for the movie can be found here: <http://youtu.be/62Ru7ymy26Y> and a review of the movie here: http://www.nytimes.com/2012/08/17/movies/frank-langella-in-robot-frank.html?_r=0

Modification: Find appropriate clips and trailers online, instead of having students view the entire movie.

6. Provide students with the “View From My Window” prompts on the next page.
7. Ask students to complete the extended/family learning, if desired.

If students watch “Robot and Frank”, you can provide them with the following questions:

- What tasks do you think a robot would need to be able to do in order to take care of Frank? Rate those tasks from easy to hard for a robot.
- Why do you think Frank is afraid of the robot? Would you be afraid to live alone with a robot? Why or why not?
- Frank says, “Do you have a phone up there in your brain?” Do you think the robot has a brain? Why or why not?
- Frank finds out that the robot isn’t programmed to have “morals” or problems with stealing. Do you think it should? Why or why not? What are good and bad things about a computer having these rules or morals?
- When Frank is teaching the robot how to open locks, he says that its time improved. Do you think robots will ever be able to “learn” rather than just follow rules?
- Hunter says that a robot caretaker is just as humane as a human caretaker. Do you agree?
- The robot admits that he doesn’t care if his memory is erased. Why do you think Frank is so surprised by that? Do you think that someday robots will have emotions and WILL care?
- The robot tells Frank that if he fails, he’ll get sent back to the warehouse and his memory will be wiped. What do you think the robot is trying to do by saying that? Should Frank feel bad for the robot? Why or why not?
- When Maddie shows up, Frank seems sad that his robot is off. Have your thoughts about whether robot caretakers are humane changed by this scene?
- Frank tells Maddie that she can’t just “use the robot like a slave.” Do you agree?
- What did you think? Should Frank have been able to keep his robot?
- Have your thoughts about whether robot caretakers are humane been changed by this movie?

Would Robots Make Good Caretakers?

View From My Window:

- What qualities do humans possess that make them good caregivers? Can machines have these qualities?
- What are the ethical considerations involved in using machines to take care of people?

Extended/Family Learning

- Interview an elderly family member or someone you know. How do they feel about machines providing care?
- Interview someone who works at a nursing home or hospital. What do they see as challenges in helping those who need special care?
- Make a list of things you do every day that might become difficult if you were old and impaired physically or mentally.

Imaginative Education Tools

Story, sense of reality, extremes and limits of reality

Teacher Notes: