Can Robots be Cultured?

Philosophy Smash with Henry!

Lesson plan

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Introduction for teachers.

This is a discussion of a topic in the philosophy of technology. It's intended to promote discussion about the role of technology (especially robots) in our future lives. It concerns the way that slippery and difficult-to-define concepts like 'culture' are really important to technology, and robotics.

It can be used for lessons in Computer Science, RE or Philosophy, or lunchtime philosophy clubs. It's primarily aimed at ages 9-13 (KS 2-3), but is also suitable for older age groups.

The lesson is designed to be done with the help of the *Philosophy Smash with Henry!* video on the same topic. It's also meant to be used with:

- The 'Can robots be cultured?' handout.
- The 'What is your culture?' activity sheet.
- The 'Designing a cultural robot' activity sheet.

All of these resources are available at the website listed above.

Learning Outcomes.

Emerging:

Explain some of the jobs that people hope robots will fulfil in the future, and some of the reasons that people are worried about the rise of robots in our day to day lives.

Expected:

Engage in a sophisticated philosophical discussion.

Be respectful of other views, and recognise alternative ways of looking at philosophical questions, whilst at the same time supporting one's own view with evidence and/or argument.

Change one's own mind, in response to a good argument.

Exceeding:

Engage in respectful evaluation and critique of others' opinions and views.

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Using the information provided, give a view on what 'culture' is, and why it matters to technology. Back up one's own opinions with carefully thought through reasons and evidence.

Ground Rules.

Start by setting some ground rules for discussion. These can be varied based on the style and ability of your class, but they might include:

1) Remember to always be respectful of other people's opinions. Everyone's opinion is equally valuable.
2) You can give your own beliefs and opinions if you like, but you don't have to. If you don't have an opinion on the question, then just think about what a sensible opinion might be, and think about why someone might hold that.
3) Try not to just give 'yes' or 'no' answers, remember always to back up your opinions with reasons and arguments.
4) It's fine to disagree with other people!
5) It's fine to change your mind! Changing your mind when someone else makes a good point is a sign of maturity and a good philosophical brain.

Sentence stems:

Depending on the ability and age of your group, you may like to use the following sentence stems to encourage children to think:

Questions:

'Why do people think…? '

'Does anyone disagree that….?'

'Do people from other cultures think that….?'

Statement of views:

'I think that… because…'

'One view I think is wrong is … because …'

'Someone else might think …because …'

'Someone in my group thinks …, but I think that …'

'It's difficult to know the answer to this question because….'

'I think there's another sensible view, which is…'

'In order to answer this question, we would need to know….'

Changing your mind:

'On reflection, I've now realised that…'

'At the beginning, I believed…., but now I'm not sure. I now think that…'

'I'm not sure about… because….'

Teaching Activities.

There are two teaching activities associated with this topic: a 'what is your culture?' game, and a 'Designing a cultural robot' activity.

They are intended to be used with the *Philosophy Smash with Henry!* video 'Can robots be cultured?' as well as the handout and two activity sheets for the topic. All of these are available at the website on p.1 of this lesson plan.

The video that goes with this lesson plan is an interview between a presenter (Henry) and an expert in robotics. The expert is Masoumeh 'Iran' Mansouri, a computer scientist from the University of Birmingham.

Teaching activity one: 'What is your culture?' game

Start off by pointing out that a person's culture is really important to them. For example, culture affects which holidays people celebrate (e.g. Christmas, Hanukkah, Ramadan, Holi, etc.) and culture greatly affects how we see the world.

The first activity revolves around the fact that it's very difficult to define what 'culture' actually is. You don't need the video for this teaching activity, and it should be done before you start watching the video. It's designed to get the class thinking so that they will find the video easier to follow.

Break the class into small groups. We find that groups of three-four work best, because there's less chance of two children just having completely opposed opinions and making very little headway. Distribute the 'what is your culture?' activity sheet (this can be found at the website on p.1 of this lesson plan). Ask the children to, as a group, discuss what they think their 'culture' is. The activity sheet contains some prompts to help them think about the different things that might be relevant to their culture.

The prompts on the activity sheet are reproduced here for reference:

What is your culture?

People who design technology (like robots) need to be aware of the different cultures that their technology might be used in. Technology can work well in some cultures, and badly in others, so technology needs to adapt to different cultures.

What is your culture?

But what is a culture? In groups, think about what your own culture is. Think about what you think summarises your culture best.

In the course of your discussion, think about the things listed below. How important do you think they are to your culture?

1) Is your religion important to your culture? What about people who don't aren't religious? What is their culture?

2) Is the country you're from important to your culture?

3) People from different cultures have different holidays: like Christmas, Hanukkah, Ramadan, Holi, etc. How important is that?

4) What about things like music, films and books? Are things like pop music, *Star Wars,* or Shakespeare what's really important to culture?

5) Do you think that food is important to culture?

After this, collect together the opinions of the different groups through a Q and A. You may find it helpful to write the main views on a whiteboard, so that you can refer back to it later during discussion.

Teaching activity two: 'designing a cultural robot'

Show the class the entire *Philosophy Smash with Henry!* video on 'Can robots be cultured?'

Then, distribute the handout for the session (available at the *Philosophy Smash with Henry* website, on p.1 of this lesson plan). The handout summarises the main points of the video, in case children have forgotten, or if they naturally learn better with written material.

Do a round of Q and A to make sure that the class understands the core ideas. It is important that they grasp the basic problem: that robots need to behave differently depending on the cultural background of the person they're talking to, but it's really hard to know how to do this.

Distribute the 'Designing a cultural robot' activity sheet. This activity sheet asks the student to design a culturally sensitive robot in three steps. The information is on the activity sheet, but is reproduced here for reference.

Activity 2: Designing a Cultural Robot.

You are a computer scientist, and your job is to design a robot that interacts with human beings. The robot needs to be culturally sensitive: it needs to act differently depending on the cultural background of the human it's interacting with.
Answer the three questions below, to design your robot. When you answer each question, try to apply what you've learned from the video and the handout.

Designing a Cultural Robot.

1) ***Where is your robot designed to work?***

Is it designed to help out around the house? Is it designed for a workspace, or a school? Maybe it's designed for a public place like a supermarket or hospital.

2) ***What is your robot designed to do?***

Your robot should do something to help humans. Will it fetch things for people? Will it chat to them? Maybe it would be a robot doctor?

3) ***How will it adjust its behaviour to the culture of the humans it's talking to?***

The robot should be culturally sensitive, depending on the culture of the person it's talking to. How are you going to programme it into the robot? How will it change its behaviour? Will it change the language it uses? How else could it be culturally sensitive?

After the children have had time to answer each question, ask them to explain what their robot design would be like. The potential assessment for this lesson involves asking the children to write up in essay format how they would design their robot. Remember to reward children who have backed up their opinions with reasoned argument or evidence.

Additional Resources

Here are some extra things you can use to make this subject more accessible to your class. They are designed for a general audience, not an academic one, but will probably be too advanced for children.

https://theconversation.com/why-robots-can-be-culturally-insensitive-and-how-scientists-are-trying-to-fix-it-227610

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