The Gender of AI Assistants: Personifying Technology

Why?

This lesson is at the intersection of technology and societal norms, particularly focusing on how AI voice assistants reflect and potentially reinforce gender stereotypes. It encourages critical thinking among students about the ethical implications of gender representation in emerging technologies, highlighting the importance of inclusivity and diversity. By examining the reasons behind gendered AI and exploring the debate on gender-neutral versus gender-specific voices, the lesson fosters awareness of how technological choices can subtly shape societal perceptions and behaviors. This understanding is crucial for students as future consumers and potential creators in a technology-driven world, where conscious and informed decisions can lead to more equitable and representative innovations.

Materials Needed	Time needed
● Printouts of case study (optional) and simulation handout	● Approximately 45 - 75 minutes, depending on how many scenarios are discussed

Objectives

- Students will be able to identify and explain the historical reasons behind the predominance of female-sounding voices in AI voice assistants.
- Students will be able to analyze and discuss the ethical implications of gender representation in AI.
- Students will be able to explore and articulate different viewpoints on whether AI should have gendered voices or adopt a gender-neutral approach.

Key Concepts & Vocabulary

- **Gender-Neutral**: Not specific to any gender; in this lesson, it refers to AI voices or characteristics that do not align with traditional male or female characteristics.

Lesson Components

1. **Before You Watch**: Connect lesson to background knowledge of the gender of AI assistants and get students' attention
2. **Video**: Show the pedagogy.cloud video explaining the ethical considerations in the topic of AI assistants' voices
3. **Case Study**: Detail a real-world scenario that relates to the issue of AI assistants
4. **Simulation**: Lead students through an interactive activity exploring the possible ethical considerations
5. **Discussion**: Ask whole-class questions to reflect on experience and consider

perspectives.
   6. **Assessment**: Verify student understanding with an exit ticket

1. Before You Watch

Ask students how many of them have used a voice assistant or smart speaker (such as an Amazon Alexa, Google Home, or Apple's Siri).
Play a YouTube video that demonstrates 12 different voices for the Google Assistant: https://www.youtube.com/watch?v=5WEt-j7N7N8
Ask students what their favorite option is. Ask them why they think the voices are colors rather than human names.

While You Watch: Mention these topics and questions for students to look out for as they watch the video:
   ● Identify some of the historical and societal causes for voice assistants traditionally having female-sounding voices.
   ● What are some reasons for including gender-neutral voices?

2. Video Summary

Artificial Intelligence (AI) voice assistants are increasingly prevalent in our daily lives, from smartphones to smart homes, often featuring female-sounding voices. This trend raises ethical concerns about gender representation in AI, as historically, female voices have been perceived as serving, while male voices are often associated with authority, potentially reinforcing traditional gender stereotypes. Alternatives like gender-neutral voices aim to represent a broader range of human identities and avoid stereotypes, but this approach also raises questions about the erasure of gender differences. The debate continues on whether AI should have gendered voices to reflect human diversity or adopt gender-neutrality to challenge stereotypes and promote equality.

3. Case Study

Distribute or read Case Study handout.
Summary: A fictional school district introduces "Skyler," an AI assistant capable of switching between male and female voices, sparking a debate on gender representation in AI. Students and teachers grapple with whether Skyler's voice should be male, female, or gender-neutral. This case study highlights the complexities of gender representation in AI technology and its influence on user interaction and societal perceptions.

4. Simulation

Students will simulate being part of a tech committee responsible for deciding the gender voice of an AI assistant in various scenarios, fostering critical thinking about gender stereotypes and inclusivity in technology.

Introduction

- Explain the objective of the activity and the role of the students as a tech committee.
- Briefly discuss AI technology, emphasizing voice and gender representation.
- Divide the class into small groups (4-5 students per group).

Scenario Exploration
- Describe the scenarios to students: Each one deals with a specialized use of a digital voice assistant. Consider how different voices might impact people hearing them.
- Print out several copies of the Simulation handout, cut them up, and pass out three or four scenarios to each small group.
- Distribute scenarios based on how much time you have for discussion. (For example, if you don't have an extended amount of time, only distribute scenarios A - D.)
- Instruct groups to discuss and decide on the most suitable voice for each of their assigned AI scenarios - female, male, or ambiguous.
- Encourage students to justify their choices based on how the voice might impact people's interactions and perceptions.

Group Presentations
- When groups have gotten to the end of their scenarios, go through them briefly one at a time.
- Mention the scenarios in order, and have the group(s) that focused on that scenario describe their conclusions.
- If desired, write the scenarios on the board, and add the groups' decisions, to keep track of the overall number of male, female, and ambiguous voices preferred by students.
- Encourage other groups to offer different perspectives, but keep conversation fairly short to make sure you can get through all scenarios.

5. Discussion

These questions are designed to be used in whole-class discussion. Ask questions that relate most effectively to the lesson.
1. How much do you think gender stereotypes influenced your choices for the AI voice in each scenario?
2. In what ways do you think the gender of an AI voice affects the way users interact with and perceive the AI?
3. How does the gender we assign to AI voices reflect broader societal norms and expectations?
4. Is it possible to have a truly gender-neutral AI voice, and what would that entail?
5. How might the perceived gender of an AI influence the emotional responses or trust users have towards the AI?
6. How important are diversity and inclusion in the design of AI technology, particularly in terms of gender representation?

7. Do you think the gender of an AI voice can impact a student's learning experience or comfort level in educational settings?
8. How do you envision the future of AI voice assistants in terms of gender representation, and what changes would you like to see?

6. Assessment

Exit Ticket: Provide a prompt for students to reflect on their learning, such as:
- What is your personal viewpoint about gender representation in AI?
- Has this activity influenced or changed your perspective? In what way?

Sources to Learn More

- Research on how AI bots reinforce gender bias - https://www.brookings.edu/articles/how-ai-bots-and-voice-assistants-reinforce-gender-bias/
- Article about how the solution to the gendered assistant problem may be to use assistants with no clear gender - https://www.wired.com/story/digital-assistant-smart-device-gender-identity/
- Background explaining why virtual assistants have a woman's name and voice - https://english.elpais.com/technology/2023-12-28/made-by-men-to-serve-why-virtual-assistants-have-a-womans-name-and-voice.html

Case Study: Digital Assistant

A school district has partnered with an AI corporation to introduce a new digital assistant, "Skyler," into their classrooms. Skyler, designed to help students with educational tasks, can switch between a male and a female voice. The introduction of Skyler has sparked a lively debate among students and teachers about the impact of assistants' gender.

Background Information

AI (Artificial Intelligence) assistants like Skyler are computer programs designed to interact with humans in a way that feels natural. They can answer questions, play music, and even help with homework. Skyler's ability to switch voices has made everyone at Technoville Middle School think more deeply about why AI assistants usually have a gender, and what it means for them to do so.

Problem Analysis

The main challenge here is understanding the ethical concerns about gender in AI assistants. Some students feel more comfortable with Skyler's female voice, saying it's warmer and more friendly. Others prefer the male voice, finding it more authoritative. A few students wonder why Skyler needs to have a gender at all.

Teachers have noticed that students tended to ask Skyler more homework-related questions when it used a male voice, but when using a female voice, they asked more about organizing their school day. This observation raised concerns about reinforcing gender stereotypes – ideas about how males and females are "supposed" to behave.

Possible Solutions

Keeping Gender-Specific Voices: One solution is to keep Skyler with the option of both male and female voices, allowing students to choose their preference. This approach respects individual comfort levels but may continue to reinforce gender stereotypes.

Creating a Gender-Neutral Voice: Another solution is to develop a gender-neutral voice for Skyler. This could be more inclusive, showing students that abilities and roles in society shouldn't be limited by gender.

Educational Approach: The school could use Skyler as a tool to teach students about gender stereotypes. They could hold discussions and activities that explore why people associate certain traits or roles with specific genders and how technology can both reflect and influence societal views.

Conclusion

The case of Skyler at Technoville Middle School opens up an important conversation about gender and technology. It shows us how something as simple as a voice in a machine can influence our thoughts and behaviors. As AI technology becomes more common, it's important to think about the messages we're sending with the choices we make in designing and using these tools.

Questions

- Do you think AI assistants like Skyler should have a gender? Why or why not?
- How might our interactions with AI assistants shape our understanding of gender roles in society?
- If you were to design an AI assistant, what features would you include to make it inclusive and respectful of all users?

Simulation Activity: AI Voice Selection Committee

The following scenarios each describe a specialized situation in which people might be using an AI voice assistant. For each scenario, have students consider whether they think people would prefer a male, female, or ambiguous voice. Cut out these slips to distribute to students.

Scenario A: Library Assistant An AI in a library helps patrons find books and research materials. It can provide book summaries, locate resources, and even suggest reading based on people's interests.	**Scenario B: Classroom Helper** In the math classroom, an AI assistant helps students by explaining complex mathematical concepts, solving problems step-by-step, and offering practice quizzes to reinforce learning.
Scenario C: Sports Coach At a local athletic club, an AI assistant provides instructions on sports techniques, offers tips for improving physical performance, and even gives feedback on athletic activities.	**Scenario D: Health Adviser** At a clinic downtown, an AI assistant offers advice on nutrition and mental well-being, and answers questions related to personal health.
Scenario E: Music Tutor A music teacher has an AI assistant that helps people learning instruments. This assistant suggests pieces of music to learn, discusses music theory, and offers technique tips.	**Scenario F: Science Experiment Guide** This AI assistant guides students through experiments, explaining scientific principles, ensures safety protocols, and helps interpret results.
Scenario G: Language Learning Companion An AI assistant in a language learning app assists people learning a foreign language. It aids in pronunciation, helps with vocabulary, and facilitates conversational practice.	**Scenario H: Art Critique Assistant** For people learning to produce art, this AI assistant offers critiques over their work. It discusses different art styles and provides historical context to various art movements.
Scenario I: GPS Directions Trying to get from one place to another can be challenging, and drivers can't always look at the map. This digital assistant speaks the directions so drivers know where to turn.	**Scenario J: Emotional Support Bot** People needing basic counseling can get help from an AI bot designed to provide a safe space for them to express feelings. This bot also guides people through stress-relief activities.

Video Script for Animator

Hello Young Innovators! Today we're discussing the ethics of gendered voices of AI assistants.
Title screen

Artificial Intelligence is becoming a bigger part of our lives every day. From smartphones to smart homes, AI voice assistants are everywhere, helping us with tasks, answering our questions, and even keeping us company. But have you ever wondered why most of these voice assistants sound female?

[Socrat narrating throughout, facing viewers.
Socrat is walking through a house, pointing to various AI devices, such as a vibrating smartphone, a glowing smart speaker, and a smart thermometer. Example: https://i.imgur.com/Yg40aue.png]

AI voice assistants haven't always been around. In the early days of technology, computers were large, clunky machines that certainly didn't talk. As technology evolved, so did the ability for machines to interact with us using voice – a feature that is becoming increasingly common.

[Socrat walks in front of a large ancient computer. Example: https://i.imgur.com/cjuUl4m.png The scene behind him shifts quickly to an image of a smart fridge, with a basic digital image of a woman's face on a large screen. Example: https://i.imgur.com/dj7DWnx.png]

Imagine asking your AI for the weather, and a deep, authoritative voice responds. Or, picture a soft, gentle voice helping you with homework. Why do these differences matter? Well, they bring us to our main topic: the ethics of gender representation in AI voice assistants. For a long time, most AI assistants like Siri or Alexa had female-sounding voices. This wasn't just a random choice.

[Socrat holds up a large tablet, showing first a weather app (Example: https://i.imgur.com/uFyEJvt.png), which produces a low mumbling voice. Then he swipes across the screen and a calculator-looking app shows up, which produces a high-pitched mumbling voice. No actual words, but they should give the impression that they are speaking.]

Research showed that people generally found female voices to be warmer and more welcoming. And people were used to hearing women's voices from back when operators connected phone calls.

[Women working at telephone switchboards, 1940's era image. Example: https://i.imgur.com/hpvlyNK.png Socrat points to the women.]

On the flip side, some people prefer to hear male voices for authoritative roles, like GPS navigation or voiceovers in documentaries. But this leads to ethical concerns. Are we

reinforcing traditional stereotypes about gender roles, stereotyping men in roles of power and women in roles of service?

[Socrat holds up the tablet from before, this time showing a map with a navigation app running. Then he swipes that away and it displays an image of a male businessman directing a female secretary, who is on the phone. Example: https://i.imgur.com/XUbZ67U.png)

One method of dealing with this issue is to use gender-neutral voices. These are designed to not clearly sound male or female, aiming to represent a wider range of human experiences and identities. It's a step towards inclusivity, and an attempt to avoid the stereotypes of gender from previous generations.

[Socrat swipes across the tablet again. The camera zooms in on the picture on the tablet to see a representation of an androgynous AI assistant. (Example: https://i.imgur.com/E7WH8lZ.png) The assistant's mouth is moving as if it is talking, and producing a mumbling voice in the middle of the pitch spectrum.]

When AI voice assistants reinforce gender stereotypes, they might also impact how we view gender roles in real life. But when we make these voices gender-neutral, are we erasing gender differences that are a real part of many people's identities?

[Socrat now is shown with two thought bubbles coming from him – one with symbols representing traditional gender roles, then a question mark over a gender-neutral symbol. Example: https://i.imgur.com/CHF73KK.png]

Some people argue that having a range of gendered voices in AI can reflect the diversity of human experiences. Others believe that breaking away from gendered voices entirely is the key to challenging stereotypes and promoting equality. There's no easy answer, and technology is constantly evolving to reflect our changing society.

[Socrat stands in front of a group of diverse animated characters, showcasing a variety of gender expressions. Example: https://i.imgur.com/ZR4DkMd.png]

So, what do you think? Should AI voice assistants have a gender? Or should they be gender-neutral to avoid reinforcing stereotypes? As we continue to integrate AI into our daily lives, it's important to think about how the choices we make about technology today shape our future.

[Some of the people in the group pull out cell phones and start to interact with them. Some talk to each other. Socrat waves to them. Example: https://i.imgur.com/vA3FJuZ.png]

Let's discuss: How do AI assistants impact our attitudes toward gender in the real world? [Display question on screen: How do AI assistants impact our attitudes toward gender in the real world?]

Video Script for Narrations

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