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TECHNOLOGY

Artificial Intelligence for Good

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Project: Artificial Intelligence for Good Project

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Sample Florida Common Core and ISTE Standards

ISTE Standards

SC.912.CS-CS.6.6 -Describe a few of the major branches of artificial intelligence (e.g., expert systems, natural language processing, machine perception, machine learning).

SC.912.CS-CS.6.7 - Describe major applications of artificial intelligence and robotics, including, but not limited to, the medical, space, and automotive fields.

SS.912.P.13.7- 2 Discuss issues related to the consequences of intelligence testing.

SP.PK12.US.5.10 -Use appropriate verbal and nonverbal communication when giving an individual or group presentation.

Common Core State Standards (CCSS)

CCSS.ELA-LITERACY.WHST.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CCSS.ELA-LITERACY.WHST.11-12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.SL.11-12.4: Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

Goals & Objectives

Artificial Intelligence (AI) has been rapidly growing in different industries. It is important for students to understand what Artificial Intelligence is and how they use it in their own daily lives. This project will introduce AI to students and help them research its potential for positive impact in a sector of their choice. Students will analyze ethical considerations in AI and create a product design, business concept, or marketing plan that leverages AI for Good.

This project helps students research an important technology innovation and present a 3–5-minute pitch from their research.

Objectives

- Students will gain an understanding basics of Artificial Intelligence
- Students will learn how Artificial Intelligence is used in different industries.
- Students will learn to understand the relationship between Math and Engineering (Science, **Technology**, Engineering, **Art,** and Math)
- Students will learn to create a prototype based on their research.
- Students will gain a deep understanding of the problem from the sources provided.
- Students will explore their own questions and curiosities through research.
- Students will create pitches and learn video editing software.

Project Overview

Artificial intelligence (AI) is everywhere these days. While there are plenty of benefits of AI, there is also plenty of ethical issues and ways it can be used in harmful ways. In this project challenge, students will address the following question: How can AI be used for good? What new business idea, product, or marketing campaign can students create to leverage AI for a positive impact in the world? Students will create a product design, business concept, or marketing campaign using AI for Good. Through this project, students will gain a basic understanding of what AI is, learn knowledge of some of the issues with AI, and identify examples of how AI is being used for good. Students will create a 3– 5-minute pitch presentation of their project idea in the classroom.

Step-By-Step Lesson Plan/Guide (For Teachers)

Lesson Plan: AI for Good Project

Grade Level: 9-12

Subject: Technology and Ethics

Duration: 5 sessions (45 minutes each)

Objective: Students will understand the basics of artificial intelligence (AI), recognize its potential for positive impact, analyze ethical considerations, and create a product design, business concept, or marketing campaign that leverages AI for good.

Materials:

- Access to the Knopro.org website
- Projector and screen for video presentations
- Writing materials and laptops/tablets for research and project development
- Presentation software (e.g., PowerPoint, Google Slides)

Session 1: Introduction to AI and its Applications (45 minutes)

1. Begin with a brief discussion about AI. Ask students about their understanding of AI and any examples they can think of where AI is used in their daily lives.
2. Introduce the concept of AI and its different applications in various industries. Highlight both the benefits and potential ethical issues associated with AI.
3. Assign students the task of exploring articles and videos on the Knopro.org website related to AI applications and ethical considerations. Instruct them to take notes on examples of AI being used for good.

Session 2: Understanding Ethical Considerations (45 minutes)

1. Start by reviewing the articles and videos students explored in the previous session. Have a class discussion about the ethical considerations associated with AI and its potential negative impacts.
2. Divide students into small groups and provide each group with a hypothetical AI scenario that involves ethical dilemmas (e.g., autonomous vehicles making life-and-death decisions). Have them discuss and present their thoughts on the ethical aspects of their scenario.

Session 3: Leveraging AI for Positive Impact (45 minutes)

1. Introduce the project challenge: How can AI be used for good? Explain that students will work individually or in pairs to create a product design, business concept, or marketing campaign that leverages AI to address a real-world problem and have a positive impact.

2. Allow students to brainstorm potential ideas and concepts. Encourage them to think creatively and consider various industries such as healthcare, education, environment, and social justice.

Session 4: Developing Project Ideas (45 minutes)

1. Provide students with time to research and develop their project ideas. They should outline the problem they aim to solve, describe how AI will be utilized, and highlight the potential positive impact.
2. Walk around the classroom to provide guidance, answer questions, and facilitate discussions as students refine their concepts.

Session 5: Pitch Presentations and Reflection (45 minutes)

1. Have each student or pair of students create a 3–5-minute pitch presentation for their project idea. They should outline the problem, present their AI-based solution, and explain the potential positive impact.
2. Conduct pitch presentations in the classroom. Encourage students to ask questions and provide constructive feedback after each presentation.
3. Conclude the lesson with a class discussion on the variety of ways AI can be used for good and how these concepts could impact society positively. Ask students to reflect on the challenges and benefits of harnessing AI's power responsibly.

Assessment: Students will be assessed based on their participation in discussions, the quality of their 3 – 5 minute pitch presentation, their ability to identify ethical considerations, and the feasibility and creativity of their project idea.

Extension Activities:

- Invite guest speakers from AI-related fields to discuss real-world applications and ethical challenges.
- Organize a panel discussion where students debate the potential risks and rewards of AI.
- Research and analyze current AI projects and initiatives that are making a positive impact in the world.

Websites/Learning Ideas/Resources

Knopro website

https://www.knopro.org/

https://www.knopro.org/challenges/

AI EDU website

https://www.aiedu.org/

Verizon learning AI website

https://www.verizon.com/learning/lesson-plans/gallery/Artificial%20Intelligence

AI mini-lesson

https://docs.google.com/document/d/1E1fcE0fepLwH9Ml2gwGmKPLlQf8F9zFjhbDa5fprOe0/edit#heading=h.30j0zll

Computer Scientist Explains Machine Learning in 5 Levels of Difficulty

https://www.youtube.com/watch?v=5q87K1WaoFI

Teach AI

https://teachai.org/

Google Applied Digital Skills

https://applieddigitalskills.withgoogle.com/c/middle-and-high-school/en/discover-ai-in-daily-life/discover-ai-in-daily-life/introduction-to-discover-ai-in-daily-life.html