AI Ethics Unit – Older Learner Edition (English) – HSA.hk

Designed by Paris for Hong Kong Homeschool Students

1. Core Teaching Chapter

What Is AI Ethics?

AI ethics is the study of how humans should design, use, and manage artificial intelligence in ways that are fair, safe, transparent, and responsible. As AI becomes part of transportation, healthcare, education, finance, and entertainment, homeschool students must understand not only what AI can do, but how it should be used wisely.

AI ethics helps us answer questions such as:
- Is the AI fair to everyone?
- Does the AI protect people's privacy?
- Who is responsible when AI makes a mistake?
- Should AI be allowed to make decisions about people's lives?
- How can we prevent AI from spreading misinformation?

These questions help us build a future where AI supports human wellbeing instead of harming or excluding people.

Four Pillars of AI Ethics

1. Fairness

AI should not discriminate based on race, gender, age, disability, or background.

Bias can appear in:
- hiring systems
- school admissions
- facial recognition
- loan approvals

If the data used to train AI is biased, the AI will repeat those biases.

2. Transparency

People should know:
- when AI is being used
- how decisions are made

- what data is collected
- who controls the system

Transparency builds trust and allows people to question or challenge AI decisions.

3. Accountability

When AI causes harm, someone must take responsibility.

This includes:
- developers
- companies
- governments
- users

Accountability ensures that AI is not used carelessly and that mistakes are corrected.

4. Privacy & Safety

AI often collects personal data:
- photos
- voice recordings
- browsing history
- location
- school performance

Students must understand how to protect their privacy and avoid oversharing with AI tools.

2. Real-World Case Studies

Case Study 1: Biased Facial Recognition

Some facial recognition systems misidentify people with darker skin tones more often. This can lead to unfair arrests or false accusations.

Ethical issue: fairness, discrimination

Discussion: Should governments use facial recognition in public spaces?

Case Study 2: AI in School Assessments

Some schools use AI to grade essays or predict student performance. If the AI is trained on biased data, it may give unfair scores.

Ethical issue: transparency, fairness

Discussion: Should students have the right to appeal AI-generated grades?

Case Study 3: Deepfakes

AI can create realistic fake videos of people saying or doing things they never did.

Ethical issue: privacy, misinformation

Discussion: How should society regulate deepfake technology?

3. Reading Comprehension Set

A. Multiple-Choice Questions

1. Which pillar of AI ethics focuses on preventing discrimination?
A. Transparency
B. Fairness
C. Accountability

2. Why is transparency important?
A. It makes AI faster
B. It helps people understand how decisions are made
C. It allows AI to replace humans

3. What is a risk of deepfake technology?
A. It improves video quality
B. It can spread false information
C. It helps with homework

B. Short-Answer Questions

1. What is one reason AI can become biased?

2. Why is accountability important in AI systems?

3. Give one example of AI used in Hong Kong.

C. Long-Answer Questions

1. Explain how biased data can lead to unfair AI decisions. Provide an example.

2. Should AI be allowed to make decisions that affect people's futures (e.g., hiring, school admissions)? Explain your reasoning.

3. Discuss whether deepfake technology should be banned or regulated.

D. Vocabulary

Algorithm – A set of rules a computer follows

Bias – Unfair preference or discrimination

Transparency – Being open about how something works

Accountability – Being responsible for actions or decisions

Misinformation – False or misleading information

E. Answer Key (Sample)

Multiple Choice: 1-B, 2-B, 3-B

Short Answer Samples:
1. AI can become biased if the training data is biased.
2. Accountability ensures someone is responsible for mistakes.
3. Examples: MTR scheduling, Octopus fraud detection, hospital imaging AI.

Long Answer Samples (summaries):
1. Biased data → unfair outcomes (e.g., AI hiring system rejecting women).
2. Students may argue yes/no with reasoning about fairness and human oversight.
3. Deepfakes should be regulated to prevent harm and misinformation.

4. Teacher Guide for Hong Kong Homeschool Community

Purpose of This Unit

This unit helps older learners:
- think critically about AI
- understand ethical risks
- evaluate real-world examples
- develop responsible digital habits
- prepare for future AI-driven careers

It is designed for flexible use in homeschool settings, small groups, or co-op classes.

How to Teach This Unit

1. Start with Discussion, Not Definitions

Ask students:
- "Where do you see AI in your daily life?"
- "Do you think AI is always fair?"

2. Encourage Debate

Older learners thrive on argument and reasoning.
Suggested debate topics:
- "Should AI be allowed to grade student work?"
- "Should deepfakes be illegal?"
- "Is AI more helpful or more dangerous?"

3. Teach Students to Question AI

Model questions such as:
- "Where did this AI get its data?"

- “Could this be biased?”
- “Who benefits from this AI system?”
- “Who might be harmed?”

4. Build Digital Citizenship Skills

Teach students to:
- protect personal data
- avoid oversharing
- verify information
- recognize deepfakes
- use AI tools responsibly

Suggested Lesson Flow (60–90 minutes)

1. Warm-up discussion (10 min)
2. Teaching chapter reading (15 min)
3. Case study analysis (15 min)
4. Group debate or scenario activity (15–20 min)
5. Reading comprehension questions (10–15 min)
6. Reflection writing (10 min)

Optional Projects

AI Ethics Poster: “Fair AI for a Fair Future”

Mini-Report: Investigate one AI system used in Hong Kong

Creative Writing: A story about an AI that learns to be fair

Presentation: “How AI Will Affect My Future Career”

Tips for Hong Kong Homeschool Parents

Encourage bilingual discussion if helpful

Use real news stories (summarized) to spark interest

Allow students to explore both sides of an issue

Emphasize kindness, fairness, and responsibility

Celebrate thoughtful reasoning, not “right answers”