

Lesson title: ETHICAL ISSUES OF ARTIFICIAL INTELLIGENCE

Duration: 15 school hours

Age of students: 16 -18 years

1 Educational outcomes

- name and describe the key ethical issues of artificial intelligence
- state and explain ethical requirements when using artificial intelligence
- give examples of artificial intelligence and explain its application
- check and explain whether the selected examples meet ethical requirements
- communicate and collaborate, develop attitudes and respect ethical rules related to artificial intelligence

2 Implementation activities

The exercise is carried out through 5 activities, which are described below

2.1 Key ethical issues of artificial intelligence (1 hour)

Description: The teacher presents an introduction to the topic. The introduction deals with the explanation of 4 key ethical issues that arise when using artificial intelligence, namely:

- human action,
- justice,
- humanity
- a justified choice

Human agency refers to an individual's ability to become a capable member of society. A person who is capable of acting can make decisions about his life choices and be responsible for his actions. Action implies

autonomy, self-determination and responsibility.

Fairness refers to the fair treatment of everyone in a social environment. This includes fairness, inclusion, non-discrimination and fair distribution of rights and responsibilities.

Humanity means consideration for people, their identity, integrity and dignity. We must consider the well-being, safety, social cohesion, contact and respect necessary for real human connection. This connection implies, for example, that we approach people with respect and not as a data object or a means to an end. It is a human-centric approach to artificial intelligence.

Justified choice is related to the use of knowledge, facts and data to justify necessary and/or appropriate choices.

Other ethical issues that can be considered are: privacy, manipulation, non-transparency, employment, autonomy and others.

After the introductory presentation, through discussion and examples, students consider key ethical issues related to the use of artificial intelligence.

2.2 Ethical requirements (1 hour)

DEscription: The teacher proposes ethical requirements for artificial intelligence:

- **Human action and supervision**

It includes fundamental rights, children's rights, human action and human supervision.

- **Transparency**

It implies sequence, the possibility of explanation and communication.

- **Non-discrimination, diversity and fairness**

It includes accessibility, design, avoiding unfair bias, regardless of age, gender, ability or characteristics. Put a special focus on people with special needs.

- **Welfare of society and the environment**

It includes sustainability and environmental friendliness, social impact, society and democracy.

- **Privacy and data management**

It includes respect for privacy, quality and integrity of data and access to data.

- **Technical stability and security**

It includes attack resistance, general security, accuracy, reliability and repeatability.

- **Responsibility**

It includes verifiability, mitigation and reporting of negative impact, trade-offs and correction.

After presenting the proposal, the students, through discussion and examples, consider the ethical requirements that are placed before artificial intelligence.

2.3 Research of debate topics (1 hour)

Description: The teacher and students suggest possible topics for holding debates. Some of the proposed topics are:

- **autonomous vehicles**
- **deepfake technology**
- **biometric technology**
- **humanoid robots**
- **diagnostic systems**
- **ChatGPT**

Students choose a topic and find and design arguments (FOR and AGAINST).

2.4 Introduction to the debate scenario (1 hour)

Description: The teacher directs the students to the debate scenario. Can use the following model:

It is necessary to divide the students into groups of 3 to 4 people. Each group will be one team. There should be an even number of teams, so that there are 2 teams for each topic, one for the topic and one against (proposition and opposition team). Each team gets a thesis.

The debate works as follows:

Each team consists of 3 to 4 people. There are 3 keynote speakers and 4 speeches for both teams

As for the proposition team, at the very beginning of the speech, the first speaker will clarify the definitions of the terms found in the thesis. In the first speech, the first speaker always presents the 1st and 2nd argument. After that speech, the 1st opposition speaker will attack and try to refute the first two arguments of the proposition team at the beginning. After that part of the speech, the speaker will present the 1st and 2nd arguments of his group (or only the 1st, if they only have 2 arguments). Next, the 2nd speaker of the proposition appears. This speaker defends the attacked 1st and 2nd arguments of his group, attacks the presented arguments of the 1st speaker.

The speaker of the opposition presents the 3rd argument of his team. The second speaker of the negation now defends the attacked arguments of his team and attacks the 3rd argument of the affirmation. He presents the 3rd argument if the group has 3 arguments, or the 2nd if they have 2 arguments.

3. speakers defend the last attacked argument of their team, and summarize the debate. They present the "clashes" that occurred in the debate. Clashes are opposite statements, i.e. comparing arguments of affirmation and negation. They explain why their team won the debate. They repeat everything that happened in the debate, defend their arguments and attack those of the other group all to show that their team's arguments stood and the opposing team failed to defend theirs.

Each speech lasts 8 minutes, except for the 4th speech which lasts 4 minutes.

The fourth speech is given by one of the team's speakers, and this speech serves to tell a story and interest the audience and win them over.

PROPOSITION 1	PROPOSITION 2	PROPOZITION 3	OPPOZITION 4
Explains the thesis and definitions, presents the 1st and 2nd arguments. – 8 min.	Defends arguments attacked by opposition 1, attacks arguments of opposition 1, presents 3rd argument. 8 min.	Defends his team's argument 3, attacks the opposition's argument 2 and summarizes the debate. 8 min.	Short speech - persuasion 4 min.
OPPOZITION 1	OPPOZITION 2	OPPOZITION 3	PROPOZITION 4
Approves or disapproves of the definitions, attacks the arguments of the proposition, and presents his team's 1st argument. 8 min.	Defends the attacked arguments, attacks the 3rd argument of the proposition and presents the 2nd or 3rd argument (depending on how many the group has). 8 min.	Defends the attacked arguments of opposition 2 and summarizes the debate by attacking the arguments of proposition 3. 8 min.	Short speech - persuasion 4 min.

This is a formal approach to debate. In order to involve the audience, short breaks can be taken between speeches and the audience can be asked for their opinion, what arguments they would add, in order to attack certain arguments - In the additional lesson there can be a discussion with the audience, questions about which side won, etc. There was also it would be good to assign two students to keep the record of the debate.

Example of a thesis for the debate: In the case of the trolley problem, the handle should be pulled and the train redirected to tracks with fewer people.

PROPOSITION: Agrees with the thesis, presents 3 arguments such as 1. The outcome is more important than the act itself (more people will remain alive) 2. Each individual bears the RESPONSIBILITY to do something.

OPPOSITION: Does not agree with the thesis. 2 arguments: 1. As soon as a person participates, he is considered responsible for the murder of that person - they agree with Immanuel Kant who says that a person should let everything take its course

It is best to choose a thesis in which you can come up with a good argument for both sides. Below are two examples of theses and arguments FOR and AGAINST.

Example 1:

THESIS: The development of smart cars that have the ability to drive independently should be stopped.

FOR:

1. Potential moral problems - what will the car do in a situation like the Trolley problem?
2. Technological aspect - how safe is it, how advanced is the technology?
3. We lose our humanity-touch with reality
4. AI cannot make decisions on its own
5. The car will act according to the program
6. In some situation, it will kill the driver or the pedestrian, depending on the interest of the program
7. Taxi drivers and public transport operators lose their jobs
8. Driving schools are closing
9. Socio-economic crisis
10. Increase in traffic on the road
11. Vehicles can be hacked
12. Untrustworthy passengers

AGAINST:

1. The development of technology is important for the development of humanity
2. Such cars make our everyday life easier
3. First 2 levels, assisted driving (sensors, cameras)
4. Programmed without emotions
5. The system would have more solution possibilities not only 1
6. Avoiding traffic accidents
7. Sensors report information to stop / predict an accident

8. The car would have self-driving capabilities
 9. Increased road safety
 10. Goal: reduction of traffic accidents
 11. Reactions: more accurate and precise
 12. The system knows the regulations perfectly
 13. Easier vehicle technical check
 14. Drunk drivers are safer, fewer traffic accidents
 15. Reduction of CO2
 16. Improving travel for people with disabilities
- Teams will attack and counter each other's arguments.

Example 2:

THESIS: It is necessary to develop robots like Sophie.

FOR:

1. They make everyday life easier
2. Technology is the future of people (So far it has brought only good)
3. People feel less lonely

AGAINST:

1. Possible war with robots, technology becomes stronger than humans
2. They have no real human qualities

Each team comes up with arguments for its side.

2.5 Performing debates (5 debates X 2 hours) - 10 hours

Description: Students conduct a debate according to a pre-arranged debate topic. Some of the proposed topics are those that they have previously researched, which are related to artificial intelligence (autonomous vehicles, deepfake technology, biometric technology, humanoid robots, Artificial intelligence in medicine, ChatGPT and others).

Some proposed theses are:

- The development of smart cars that have the ability to drive independently should be stopped
- It is necessary to develop robots like Sophie
- Artificial intelligence is a threat to humanity
- Artificial intelligence research is going too fast
- We should be concerned about the rise of intelligent machines
- Intelligent robots will completely replace humans in the workforce
- Artificial intelligence improves human capabilities
- Intelligent chatbots will replace customer service representatives
- Artificial intelligence will create intelligent artificial life forms
- The use of facial recognition technology powered by artificial intelligence should be stopped

Note: The debate can also be conducted virtually with the help of the **Kialo Edu** tool. Kialo Edu is a free digital tool, located at: <https://www.kialo-edu.com/> .

The tool makes it possible to conduct debates with clearly visible affirmative and negative arguments that can be arranged according to priorities and importance. The special feature of the tool is that debate participants do not have to register to participate, but can have the option of anonymity.

Also, the tool is suitable for keeping minutes of the debate.

The basic functionalities of the tool are:

- It involves creating a user account
(not mandatory) – you can be a participant even without registration
- Grading and Feedback enables monitoring of student progress
- Tasks (Tasks) – enables tracking of goals that have been completed or are in the process
- Commenting (Commenting on a claim) – an option that allows commenting on theses and statements, as well as voting (giving importance to a particular thesis)
- Discussion chat (Discussion chat) - can be opened anywhere in the

discussion, especially useful for giving more general feedback about the discussion

- Marking a claim for review (Making claim for review) - marking a claim for any reason will turn yellow and notify the author.

3 Links

- Artificial intelligence: from concept to application, curriculum for an optional high school subject, <https://www.carnet.hr/wp-content/uploads/2024/04/Kurikulum-fakultativnog-predmeta-za-srednje-skole-Umjetna-inteligenija.pdf> , visited on 23.4.2024.
- Publications Office of the European Union: <https://op.europa.eu/hr/publication-detail/-/publication/d81a0d54-5348-11ed-92ed-01aa75ed71a1> , visited on 23/04/2024.
- Croatian Debating Society, <https://hdd.hr/> , visited on 23 April 2024.
- Kialo Edu: <https://www.kialo-edu.com/> , visited on 23/04/2024.

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