

## IO3 – School Program for Primary Education Students

### Tutor Handbook Template



## Introduction to the Tutor Handbook

The aim of this short handbook is to support you, as an experienced tutor, to use the Generation AI Lesson Plans with learners in your group. If you are currently working as a Primary Education Teacher, this handbook will help you to introduce the Generation AI Lesson Plans in your workplace. When developing these Lesson Plans, the focus has been to support young learners in developing an evidence-based understanding of the complexities and basic principles of AI, computational thinking, and how they can be integrated in teaching learning to promote creative problem solving, resilience, and design thinking.

This Lesson Plan belongs to the Responsible Use topic and is targeted to children between 6 to 8 years old. This topic aims to provide learners with the basic knowledge of this competence and how AI can be used to solve daily life problems related to this skill.

### Introduction to the Competence

Nowadays, we use Artificial Intelligence on a regular basis. Through apps on our smartphone, through Netflix and its recommendation, and our email with a spam filter. However, the above examples seem quite innocent, but AI comes with quite a few risks as well, for example AI bias. Leading to inequalities among people. Therefore, the topic Responsible Use is of great importance when teaching about Artificial Intelligence. With knowledge on the risks of AI, we can become responsible and critical consumers of this modern technology.

### Introduction to the lesson

This lesson contains three elements: a video, a learning activity, and a challenge. All elements are designed in a way that your students can work on their own without any additional information needed from you. However, you can help, assist, or take over parts of the lesson if you want to. In this document we explain what you can do for each of the three elements.

## Elements of the Lesson Plan

### Video

This 1-2 minute video is an explanation of the Responsible use. This video is the first element of the Lesson Plan, and you can find it in the platform of Generation AI project as an embedded video of YouTube. It helps to contextualize the following elements of the lesson plan: Learning activity and Challenge.

#### What you can do with the video:

As a teacher, you can decide to watch the video as a group, or let students watch the video individually. Afterwards you can ask a few reflecting questions, such as:

- What was the video about?
- Why is the topic Responsible Use of AI important for you?

### Learning Activity

The second element that you will find in the Lesson Plan is a learning activity with a problem-based task. This task consists of a guided activity that aims to help students come up with a reflection about a question/problem proposed.

This question/problem aims to give learners the opportunity to know how AI can affect their daily lives in a simple and ludic way.

In this lesson plan the question/problem is **Is AI ethical?**

This lesson focuses on ethical aspects of AI. The lesson starts with a very short introduction to the concept of 'ethical'. Next, via a game, students learn that AI systems can easily learn patterns based on their behavior. Next, the students will learn that platforms such as Netflix, TikTok, and Instagram, all use these kind of AI systems to decide what movies they will show next. All with the aim to keep them entertained and make them use the apps longer.

Finally, students are asked to make ethical decisions for a self-driving car. And reflect a little on how hard or easy that was.

### **What you can do with the learning activity:**

As this is a guided learning activity, you will need to ensure that students follow each of the steps and links provided in the activity. If you need to use any other resources, feel free to do so and intervene in the course of the activity.

You can also choose to give the presentation yourself. In the Appendix I you can find an example of text that you can use while presenting the slides.

At the end, you can let students discuss the reflective questions in duos, or you can decide to do this with the whole group. In the Appendix II you will find answers and some videos for more information per question. Please note, that are not really right or wrong answers to the questions. These materials merely serve as a way to get the dialogue started.

## **Challenge**

This last element of the Lesson Plan is an AI based challenge tutorial game. It aims to be the most ludic part of the lesson plan and pretends to conclude with the knowledge acquired during the lesson plan.

The tutorial is related to the Responsible Use topic and is created to help students develop their own self-driving car using [Scratch](#).

The PowerPoint slides offer step-by-step instructions on what to do in Scratch to make the self-driving car.

### **What you can do with the challenge:**

If your students have zero experience with Scratch, we recommend showing the slides on the big screen and describe what students have to do. Students can follow along with the steps of the slides. After finishing the steps, students should have a basic understanding of how Scratch works. If they want, they can go and play around in Scratch after the exercise.

## Appendix I

Slide 1:

**Today, you will examine if AI is always ethical or not.**

Slide 2:

**Being ethical is similar to being a good person. We learn that it is wrong to steal, hurt others, lie, and that it is good to take care of other people, be trustworthy, honest, and respectful. Not only can humans be ethical, but AI as well.**

**For example, AI must be trustworthy, and cannot harm us. It is not ethical when an AI system tries to hurt us, nor is ethical for an AI system to lie to us.**

**But is AI always ethical? You will find out in this lesson. First, you will play a game to find out that AI knows us very well and use information against us. And second, you will play a game where you will see that sometimes it is very hard to let AI make an ethical decision.**

Slide 3:

**First, let's see what AI can do. Go and play the mini-game, try to win against an AI system at a simple game of rock-paper-scissors**

<https://www.afiniti.com/corporate/rock-paper-scissors>

**Play it at least 25 times. Do you notice something? Is it starting to get harder to win?**



**That is probably because the AI model started to see a pattern in your choices for rock-paper-scissors. You see, we humans are very bad in choosing randomly between rock, paper, and scissors, after a few games. And that is something an AI system can pick up on. For example, there is a chance that we prefer playing rock after scissors, more than playing paper after scissors. Or we never play something three times in a row. Afiniti, learns to identify these patterns in your choices, and based on the**

**patterns, in can predict your next move. If it can predict your next move, it can very easily beat you.**

Slide 4:

**Now, what this means is, that sometimes AI knows us better than we know ourselves.**

Slide 5:

**Platforms such as Netflix, YouTube, TikTok, and Instagram, cleverly make use of this. The goal of these platforms is for you to spend as much time as possible on their platforms. So how do they do this?**

**Well, they use AI to find out what kind of movies or videos you like to watch. Just like before with the game, where AI was able to predict your next move, AI is also able to predict another movie or video that you will like. It will search for patterns in all the previous movies and videos that you watched, and then find out what you will like next. Once the AI system knows this and share it with the platforms, they will offer you all these types of videos that you seem to like! And what do you do? You will keep watching these videos, because you like them so much!**

Slide 6:

**Although this is very easy for us, because we don't have to search for new fun videos ourselves, this can also be unethical, meaning not right. Can you think of reasons why?**

Slide 7:

**When we right an algorithm, we are writing rules or a step-by-step recipe that an AI system has to follow. It seems very easy to write algorithms that will behave ethically. For example, when we are writing algorithms for a self-driving car, we can tell the car that when it sees a person in front of it, the car should stop. Or when it sees a red light, it should stop. But sometimes it is not so easy**

Slide 8:

**Imagine you are designing a self-driving car. Open this website and play the game. Think about what you would program the car to do in those situations.** Game: <https://www.moralmachine.net/>

What is easy? Probably not. But if we already find it difficult to decide what to do in these situations, how is a self-driving car supposed to do this? Will it always make the right, or ethical, decision?

Slide 9:

**Although this is very easy for us, because we don't have to search for new fun videos ourselves, this can also be unethical, meaning not right. Can you think of reasons why?**

## Appendix II

### How can we let the self-driving car make ethical decisions?

Scientists are still not sure. Some ideas could be:

- Ask many people what they think the car should do, and use that as input to program the car
- **Let the car pick a randomly between 0 and 1. 0 is the first option, 1 is the second option**
- Use data from many previous car accidents, and see in which accident more people are alive
- Decide to always choose the option where the number of people not injured is the highest
- Decide to always choose for the option where no children are involved in the accident
- Prefer to save young people over old people
- Always save pregnant people

- **Important:** There are no right answers here. A lot of people are still thinking about this. The above are just some ideas to get the conversation going.

**Do you think it is ethical that TikTok and Instagram know so much about you and use that information? Why?**

- Reasons why it is ethical:
  - o Because they are not hearting us with the recommendations they give us
  - o Because we give them the data ourselves
  - o Because they help us: we like the videos they recommend
- Reasons why it is not ethical:
  - o They are manipulating us in using the app longer
  - o Perhaps there are other videos that we would also like, but they are not showing it to us
  - o We only see videos that they are sure we like, so we never see videos of people who we don't like, of with whom we do not agree. This causes us to be trapped inside this bubble of content that we like

**Would it be the same for you if a self-driving car causes a car accident as when a person causes a car accident?**

- Research shows that we are more forgiven to other humans than to robots. If a robot makes a mistake it is a bigger problem for us, than when another human makes mistakes.
- 'we are only human, humans make mistakes'
- Robots cannot make mistakes
- **Important:** Again, there are no right or wrong answers here.