

How to develop learning trajectories?

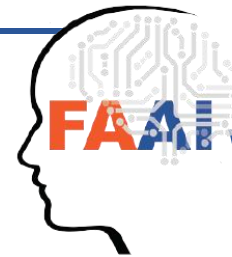
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FAAI:
The Future is In Applied Artificial Intelligence
WP4 Teacher Training A 4.5,
Podgorica, Montenegro, 15-19.05.2023
(UBB Team)

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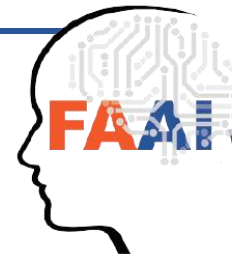




How to develop learning trajectories?

- In learning trajectories related to Applied AI, the students are actively involved in the process from start to finish.
- The activity is opposed to traditional didactic teaching, where information is presented directly, or there is a standardized methodology for acquiring knowledge.
- The process of cognition is controlled by a teacher as an intermediary.
- Students must identify and explore problems and questions in order to expand their knowledge or find solutions.

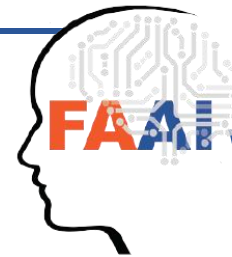




How to develop learning trajectories?

- **Discovery learning** includes **problem-based learning**, and is typically based on research and small use cases, as well as academic research.
- **Learning by discovery** is very closely related to the development and practice of critical thinking.



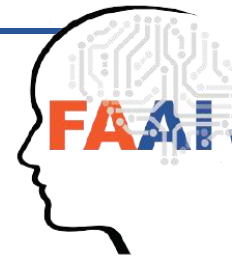


How to develop learning trajectories?

The **cognitive processes** that people participate in while learning through discovery include the following:

- Asking Your Own Questions
- Gathering evidence that helps answer the question(s)
- Explaining collected evidence
- Linking explanations to the knowledge they came up with during the exploratory process
- Creating arguments and justifications for why the explanation is valid



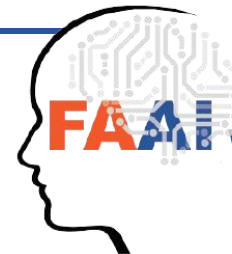


How to develop learning trajectories?

Discovery learning includes

- asking questions,
- noticing details,
- checking what information has already been learned,
- developing methods for conducting experiments,
- developing tools for collecting data,
- collecting, analyzing and interpreting data,
- pointing out possible explanations,
- predicting future research.



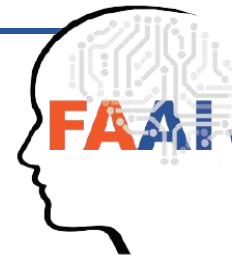


How to develop learning trajectories?

Scenario-based learning is justified for the Applied AI because:

- the decision made at a certain moment affects how everything goes on;
- the task requires analysis and problem-solving skills;
- there is no single correct solution to the problem;
- difficult to provide practical experience.



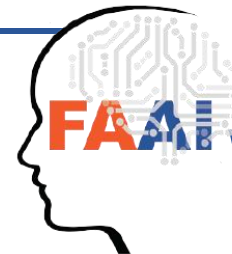


How to develop learning trajectories?

Learning scenarios can be **linear as well as non-linear** (branching).

- **Branching** is the choice of a sequence of actions depending on the fulfillment or non-fulfillment of a certain condition.
- **Branching** in training scenarios makes it possible to build logical chains in order to optimally solve the problem with the least possible losses.

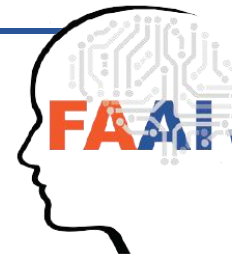




Learning Scenarios – 1 per lecture

- Lecture 1 (**linear scenarios**):
- Data exploration for classic ML basing on external modules -> Developing ML workflow for classic ML basing on external modules -> Predicting with the help of classic ML models basing on external modules

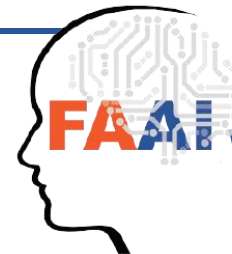




Learning Scenarios – 1 per lecture

- Lecture 2 (**linear scenarios**):
- Data exploration for deep ML basing on external modules -> Developing ML workflow for deep ML basing on external modules -> Predicting with the help of deep ML models basing on external modules

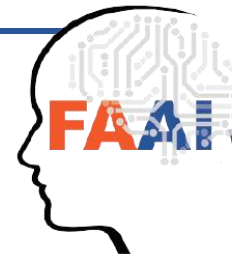




Learning Scenarios – 1 per lecture

- Lecture 1 (**linear scenarios**):
- Basics of information processes in healthcare
-> Standards of medical data -> Developing ML workflow for AI problem in healthcare

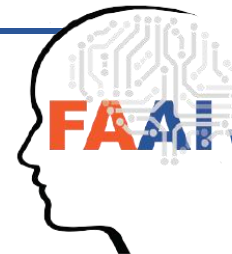




Learning Scenarios – 1 per lecture

- Lecture 2 (**branching** scenarios):
- AI models for
 - -> classic ML in healthcare
 - -> AI models for deep learning in healthcare
- -> AI models for reinforcement learning in healthcare





Thank you for attention!
Question??

