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Teacher Workshop Concept
Artificial Intelligence

In addition to our [“AI explained” workshops](#) for Pasch students, IMAGINARY also offers advanced training for PASCH teachers on the subject of artificial intelligence. The workshops take place either online or on-site. Selected core concepts of Artificial Intelligence (AI) are presented and practiced, and examples for curricular use in teaching are given. Depending on the target group, the focus can be put on elements for German teachers or for teachers of subject-specific lessons.

What your teachers can expect in terms of content:

- Introduction to artificial intelligence
    - Definition
    - Overview of current topics, applications and questions
- Core concepts of AI with background material and worksheets
    - Learning and training data
    - Gradient descent method (interactive game to experiment)
    - Neural networks (definition, architecture, examples)
    - Understanding vs. ability (example Nim game and Chinese Game Room experiment)
    - The dilemma between using existing knowledge vs. discover something new (interactive game to experiment)
    - Reinforcement learning (learning through feedback, example of a virtually learning robot)
- Ethics and philosophy of AI
    - Example: the ethics of autonomous vehicles
    - Discussion game “Perspective AI” (AI and society)
    - Transparency and interpretability

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The training takes place in German or English. Training sessions for teacher tandems are possible. Additionally, we offer modular foreign-language specializations for subject teachers in French and Spanish.

All of our training courses and workshops are conducted by academics who have experience in international work with schools and in particular with German as a foreign language. For our specializations for subject teachers in French and Spanish, we only work with academics who have been intensively trained in advance and who have a command of these languages at least at C1 level or who are native speakers.

To date, IMAGINARY has inspired millions of visitors in over 60 countries and 30 languages with science.

Schedule of a teacher training, example:

	Day 1	Day 2	Day 3
Afternoon (online)	Introduction, overview of core concepts of AI	Special topics 1	Special topics 2, Recap and conclusion
Evening (offline)	In-depth reading, material offered for: a) subject teachers b) German teachers	Independent processing of work material: a) subject teachers b) German teachers	Practicing what has been learned using hands-on tools

Organizational matters:

	Online workshop	Workshop on-site
Number of participants	6-8	12-15
Language of the training	German or English	German or English
Duration of the training	3 days, with 90 minutes online modules plus ca. 2 hours offline activities each	3.5 days
Costs of the training	1500,- EUR	5000,- EUR
Additional costs	VAT (5% or7%) if applicable	Travel costs and physical material, VAT (5% or7%) if applicable

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Even for on-site workshops, we recommend that all participants have access to a computer with an Internet connection. Working in groups of two is also possible. All material is freely available under open licenses.

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