



# ENHANCING GENERATIVE AI RESPONSES WITH SPECIALIZED DATA (RAG)

The method below was shared by teachers on the French MOOC "[Artificial intelligence for and by teachers](#)" – visited on 01/07/2025.

Additional information (e.g., country of origin) was extracted from the official websites of each tool.

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## DEFINITION

Retrieval-Augmented Generation (RAG) combines an internal search engine with a text generation model. In education, it enables chatbots or virtual assistants to provide responses based solely on verified pedagogical resources (course materials, PDFs, videos, official documents), reducing errors and AI hallucinations.

## EDUCATIONAL OBJECTIVES

- Provide reliable, contextualized responses to students.
- Support remediation and reinforcement of learning.
- Reduce teacher workload for repetitive tasks (explanations, quizzes, monitoring).
- Create a virtual tutor for guided remote learning.

## HOW IT WORKS

1. **Select reliable resources:** PDFs, videos, official documents, classroom content.
2. **Index and integrate into RAG:** The model queries only this knowledge base.
3. **Generate responses:** AI produces explanations, summaries, quizzes, or tailored recommendations.
4. **Interaction and feedback:** Students ask questions and receive personalized answers.

## ADVANTAGES

- Increased reliability: AI uses only verified documents.
- Remote support: Provides a virtual tutor for reinforcing difficult concepts.
- Teacher time savings: AI handles certain explanations and exercises.
- Creativity and personalization: Generates varied educational content.

## PEDAGOGICAL USE CASES

- Create customized educational chatbots from PDFs.
- Summarize and reformulate long documents for students.
- Automatically generate quizzes and exercises from reference documents.



- Develop course-specific GPTs for a subject or discipline.
- Track progress and adapt activities to student level.

## TOOLS MENTIONED ON AI4T FORUM

- **Poe AI:** LMS interface
- **Brisk Teaching / Nolej AI:** Quiz and interactive content generation

## BEST PRACTICES

- Restrict AI to validated resources to minimize hallucinations.
- Adapt content to the audience: remediation, reinforcement, or extension.