

Tinkering with Tomorrow: Learning, Imagination, and Generative AI in the Classroom (Custom GPTs)

Session 2

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What are Custom GPTs?

- Custom GPTs are specialised versions of Large Language Models (LLMs) tailored to perform specific cognitive tasks with minimal human oversight.
- Unlike general LLMs, which are trained on broad datasets, Custom GPTs can be instructed to focus on a particular knowledge base.



What are Custom GPTs?

- This fine-tuning enables users to create AI assistants that deliver more accurate and relevant responses within their specialised fields, enhancing performance while limiting hallucinations.
- Within the educational domain, Custom GPTs can provide a wide range of solutions, including content generation, intelligent tutoring, and data analysis.









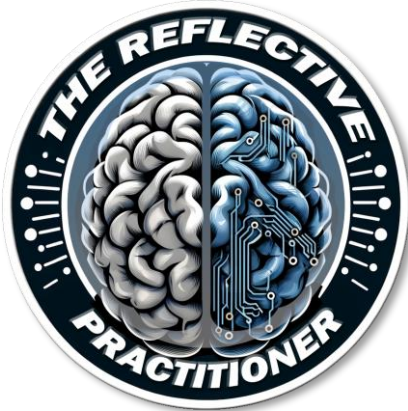
Tailored for primary teachers, offering simple science explanations, classroom experiments aligned with learning outcomes, comprehensive resources, and links to create customised lesson plans and guides.



Designed for middle school integrated science, offering curriculum-aligned assessment tasks and feedback rubrics. It delivers rubrics, lesson plans, objectives, and resource links, ensuring comprehensive support.



A versatile Ethics teaching tool, generating lesson plans with activities, videos and presentations, and offering feedback on teachers' reflective journals. Presented at UNESCO Digital Learning Week 2024.



Informs, engages, co-reflects and provides feedback to educators on reflective practice through embedded resources, debate, analysis and feedback. Features four modes: Teach, Debate, Co-reflect, and Suggest.



A tool for educators to enhance their understanding of art and culture. Featuring distinct modes, it guides users through observation, critical questioning, and research, fostering interactive art exploration.



Offers detailed and persona-based theme analysis with transparent coding, flexible data input, and expert guidance. Ideal for developing interview guides and interactive learning, ensuring thorough and reliable research.

Steps to Build a Custom GPT

1. Define Objectives:

- What purpose will your GPT serve?
- What will its primary aims be?
 - Will it address unmet needs of traditional methods?
 - Will it enhance learning?
 - Will it automate tedious cognitive tasks?

2. Plan the Model Architecture:

- How complex will your model be? (Visualise it using a flowchart).
- Is this complexity feasible, given your knowledge and available technology?
- Will it enhance or impede the user's experience?

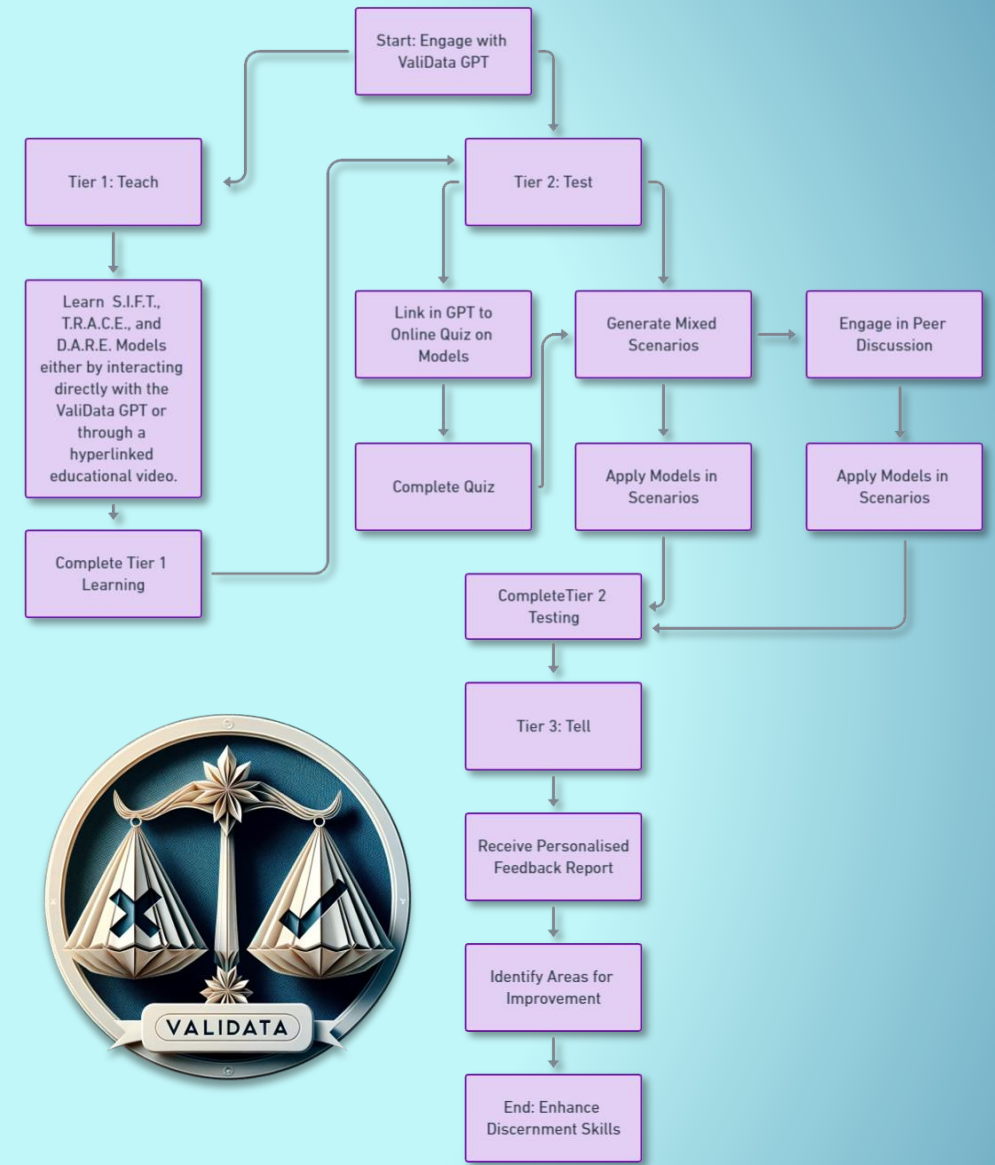
Steps to Build a Custom GPT

3. Collect and Prepare Training Data:

- What texts and datasets will form the GPT's knowledge base?
- How will this information be sourced and organised? (Data Preprocessing: cleaned, labelled, and balanced)

4. Define a Persona using the CAPITAL model:

Confidence, Amicability, Professionalism, Interactivity, Transparency, Adaptability, Lexicography.



Created using: Whimsical

Tip: Use existing GPTs to brainstorm and refine ideas

Steps to Build a Custom GPT

5. Instruct and Train:

- Functionality (Clearly define what tasks the GPT will handle and how it will perform them)
- Security (Specify what the end user can and cannot access)
- User Feedback Loop (use feedback to refine the model post-launch, consider *actions*)
- Use of the knowledge base (Format, style, and delivery mode)
- Ethical consideration (ensure compliance with data privacy laws copyright and ethical guidelines)

6. Evaluate and Iterate:

- Create test cases, identify errors, fine tune, and repeat.

7. Demonstrate:

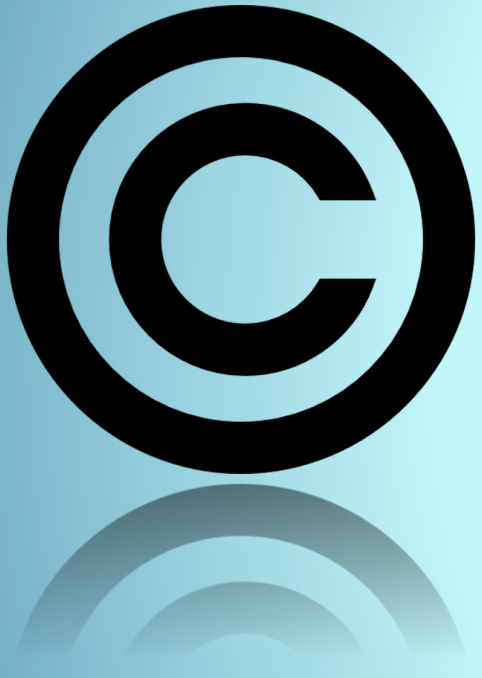
- Show how the GPT can be effectively utilised by the end user.

Sourcing Your Training Data

- Your own Body of Knowledge
- Research Papers and Journals
- Educational Websites
- Government Educational Portals
- Public Data Repositories
- Textbooks and Syllabi
- MOOCs (Massive Open Online Courses)
- Wikipedia and Wikibooks
- Podcasts and Educational Videos
- Historical Databases and Archives
- Coding and Programming Resources
- Language Learning Platforms
- Teacher Networks and Forums
- Assessment Databases
- Educational Blogs and Publications



Avoid Copyright and Data Privacy Infringements



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- Always aim to create content that transforms the original material by contributing new meaning or educational value.
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Potential Applications of Custom GPTs in Education



Personalised Learning Assistants

Interactive Storytelling and Creative Writing

Automated Content Generation

Ethical and Critical Thinking Modules

Real-Time Q&A and Homework Help

Data-Driven Insights and Predictive Analytics

Language Translation and Accessibility

Faculty Training and Support

Simulation and Modelling

Peer Learning Platforms

Potential Applications of Custom GPTs in Education

Automated Assessment
and Grading

Data Analysis

Personalised Research
Assistance

Multimodality AI
Disability Assistance

Academic
Integrity Tools

Gamified
Learning

Curriculum
Development

Interactive Storytelling
and Creative Writing

Multimedia Creative
Expression

Remote and Hybrid
Learning Support



Pros and Cons of Using Generative AI in Education

Advantages

Intelligent & Emergent Capabilities
Personalised Learning
Versatility
Enhanced Accessibility
Automation & Support for Educators
Scalability
Multimodal Identification
Inherent Creative Potential
Instantaneous
Anthropomorphism
Instantaneous Replication

Challenges

Biased Training Data
Risk of Academic Dishonesty
Quality and Reliability Issues
Equity and Access Concerns
Dependency on Technology
Integration and Training Challenges
Risk of Digital Surveillance
Requires a Change in Mindset
High Energy Consumption
Anthropomorphism
Instantaneous Replication