MedQuiz Professional Designer

Case Study

Hybrid Healthcare

This case study describes the development and application of the MedQuiz Professional Designer, a custom GPT model designed to assist educators and curriculum developers in medical education. The tool supports the creation of high-quality, guideline-aligned multiple-choice quizzes, structured according to Bloom's taxonomy and national standards. It enhances assessment design workflows through AI-powered automation and customization, with a strong focus on usability, pedagogical precision, and reproducibility.

Implementation Process

Steps taken to introduce the technology or system:

- Development of prompt frameworks and expert instructions embedded in the GPT model.
- Iterative testing with real-world medical topics and feedback from educators
- Deployment via ChatGPT's "Custom GPTs" functionality.

Stakeholders involved:

- Educators in medicine and health sciences
- Specialists in AI prompt engineering and model customization

Impact and Results

Quantitative results:

Over 500 quiz items were generated during the initial testing phase
Educators reported more than 50% time savings in the creation of assessment materials compared to traditional methods

Qualitative results:

The tool improved the pedagogical quality of test items by encouraging alignment with Bloom's taxonomy and national learning objectives.
It significantly lowered the barrier to entry for educators with limited experience in test construction, offering guided prompts and structured templates.
Users reported increased engagement and reflection, noting that interacting with the model helped them think more critically about assessment design and educational goals.

Country	Poland
Institution/Organisation	Medical University of Warsaw
Type of setting	University
National Context	Polish medical education is increasingly exploring AI-based solutions to support efficient, standardized, and high-quality assessment design. As the demand for digital resources aligned with national medical curricula grows, tools like MedQuiz Professional Designer help educators quickly generate test items that align with didactic principles and evolving competency frameworks, supporting both universities and continuing medical education.

Success Factors

- High usability and intuitive interface (chat-based interaction).
- Modular design based on proven educational taxonomies
- Zero cost and instant accessibility via ChatGPT.

Challenges and Barriers

- Occasional generation of medically imprecise or overly simplistic questions
- Requires critical human oversight and review
- Limited formatting control in chat interface

Resources and Funding

- Funding sources: None. Developed independently without external funding.
- Resources required:
  - Access to ChatGPT
  - Basic training for prompt customization and validation of AI output.

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Recommendations:

Practical advice for future implementations:

- Begin with small pilot implementations with expert review
- Use in combination with item review panels
- Encourage feedback loops between educators and AI outputs for refinement

Integration in Education Settings:

The tool is used during curriculum design, assessment development workshops, and faculty development training. Supports item creation for:

- Summative exams.
- Formative quizzes.
- OSCE preparation and simulations.

Specific Environment and Limitations:

External factors that supported implementation:

- Growing interest in AI-enhanced education in Poland
- Availability of powerful language models via user-friendly platforms like ChatGPT
- No need for institutional IT infrastructure — model accessible online

External factors that restricted implementation:

- Requirement for paid ChatGPT Plus subscription (GPT-4).
- Lack of formal integration with academic systems (e.g., LMS, exam platforms).
- Limited awareness or technical readiness among some educators

Key Lessons Learned:

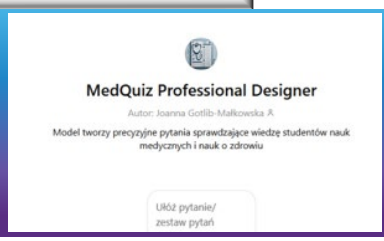
Insights and lessons for similar initiatives:

- Clear prompting and guidance greatly influence output quality
- AI can reduce workload but not replace human clinical judgment.
- Embedding pedagogical frameworks within the AI increases educational value.

Transferability to other settings:

- The approach can be adapted to other disciplines with structured assessment needs
- Requires contextual alignment with national curricula and regulatory frameworks
- Useful in both academic and continuing professional development contexts

Supporting Materials:



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