Artificial Intelligence in Independent Music Study: Value Maximization of Open AI's ChatGPT and GPT Creator
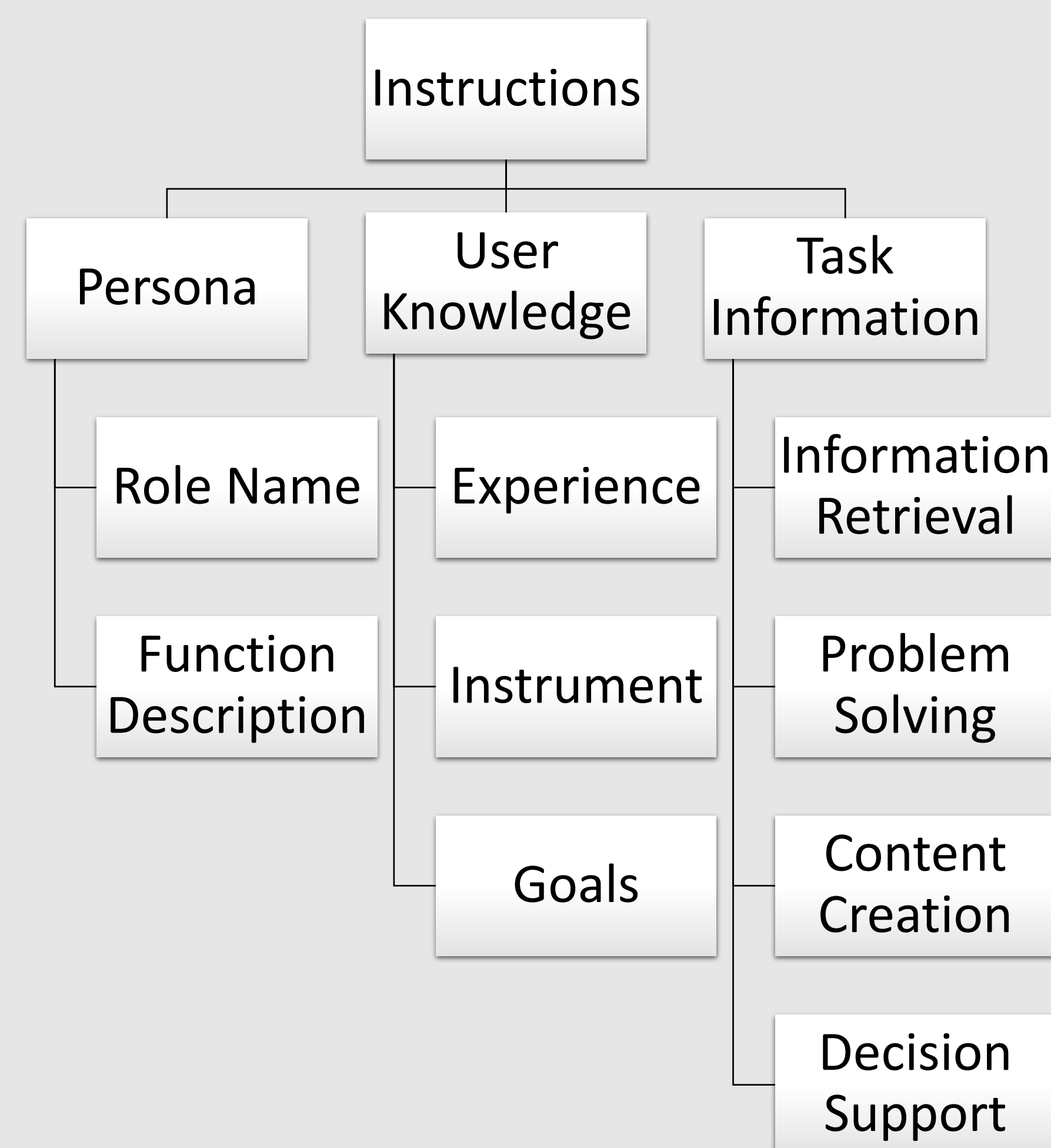
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Abstract

OpenAI's ChatGPT and GPT Creator have the potential to revolutionize the music education sector. However, there is a lack of research on how users with no coding or prompt engineering experience can effectively use ChatGPT and GPT Creator. To address this issue, a case study was conducted to identify the techniques that generate the best responses in ChatGPT and GPT Creator for independent music learners. The study involved creating questions about learning an instrument, specifically the ukulele, developing prompts based on those questions, and iteratively testing and comparing the responses. One technique that generated high-value responses was starting the conversation with a set of instructions that included a persona, user knowledge, and task information. Future research should focus on testing the techniques identified in this case study with actual music learners.

Research Question

Within the domain of independent music study and without the prerequisite of coding or prompt engineering expertise, which prompt engineering techniques can most effectively maximize response quality from OpenAI's ChatGPT and GPT Creator?

Methods
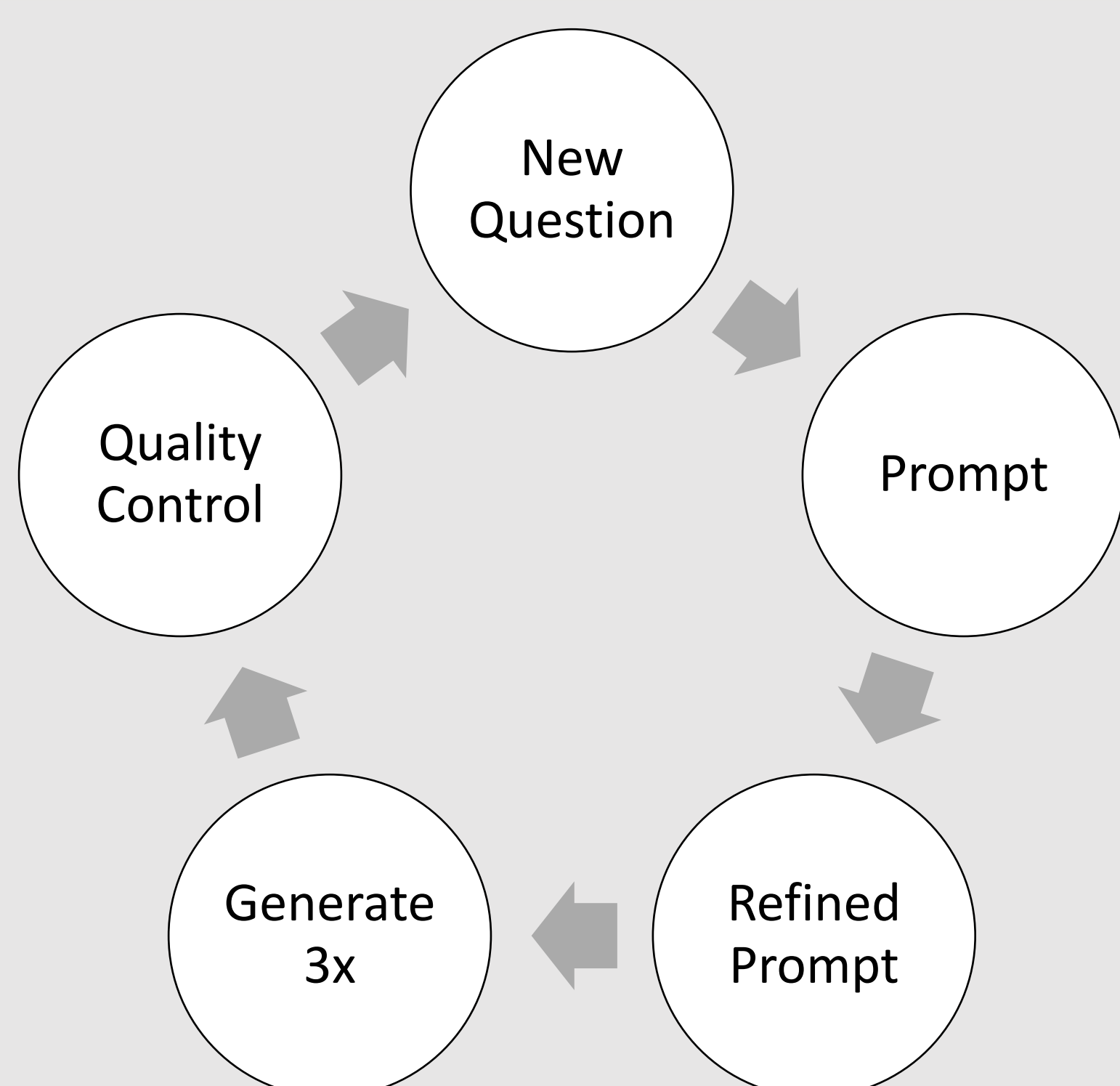
Visual 1. Complete progression of finding prompt engineering techniques.

Results

(Layout of Chat Session)
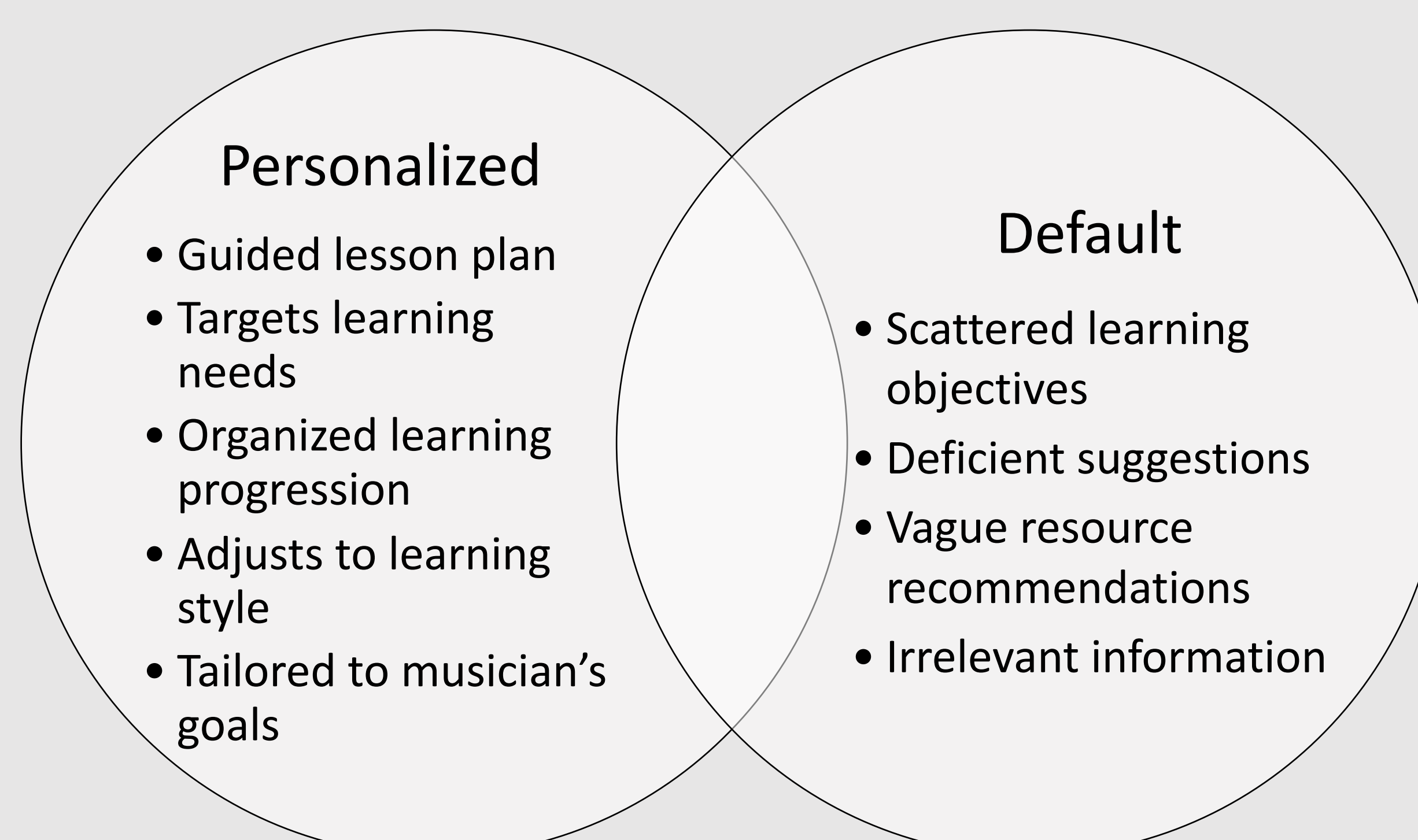
"Acknowledge these instructions by responding with 'YES' before receiving your first prompt."

Visual 2. Prompt engineering techniques which created the highest response quality in OpenAI's ChatGPT and GPT Creator

Personalized vs Default

Personalized
- Guided lesson plan
- Targets learning needs
- Organized learning progression
- Adjusts to learning style
- Tailored to musician's goals

Default
- Scattered learning objectives
- Deficient suggestions
- Vague resource recommendations
- Irrelevant information

Visual 3. Comparison of responses when employing prompt engineering techniques versus not using them.

Prompt Example

Visual 4. Implementation of prompt engineering techniques

Discussion

Advancements:
- Implementing prompt engineering techniques generate high value responses and decrease inaccuracy.
- Countering the gap within the literature on aiding users with little to no experience in prompt engineering

Limitation:
- "High-value response" measure may be biased

Suggestion:
- Reinforcement Learning from Human Feedback

References

Ukulele GPT