

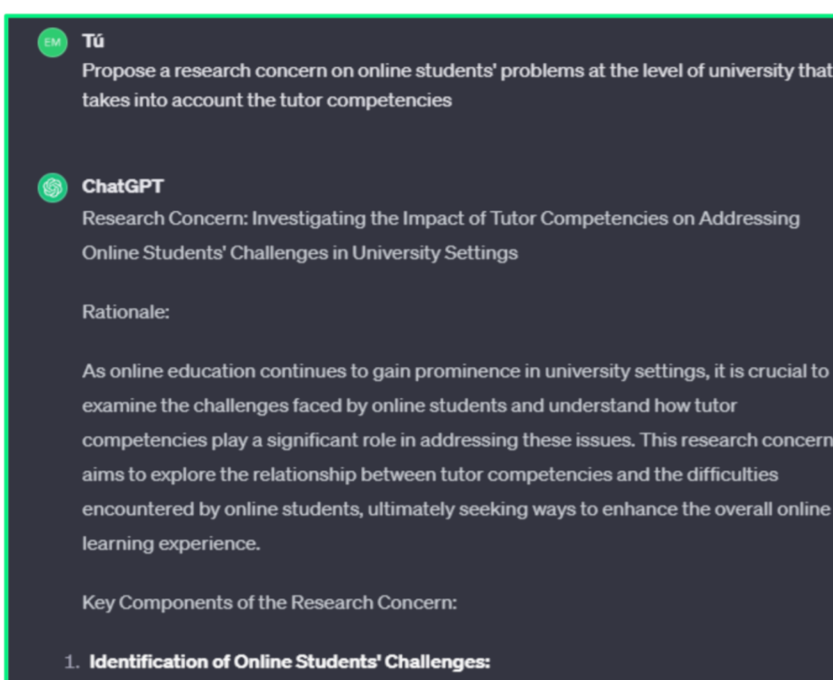
Research design map with the support of Artificial Intelligence using MAXQDA 24



Introduction: Advances in implementing Artificial Intelligence in MAXQDA allow reformulate our original proposal (2016). The research design map is the structured representation of the key components of a study being a clear and understandable representation of how the research will be conducted. The objective of this communication is to summarize the options available in Artificial Intelligence, to present the methodological routes to analyze qualitative data and different uses we have applied in recent qualitative data analysis for our clients and to reflect on future possibilities for qualitative and mixed research design and analysis. Below, we show different steps in qualitative research design with a special focus on qualitative data analysis.

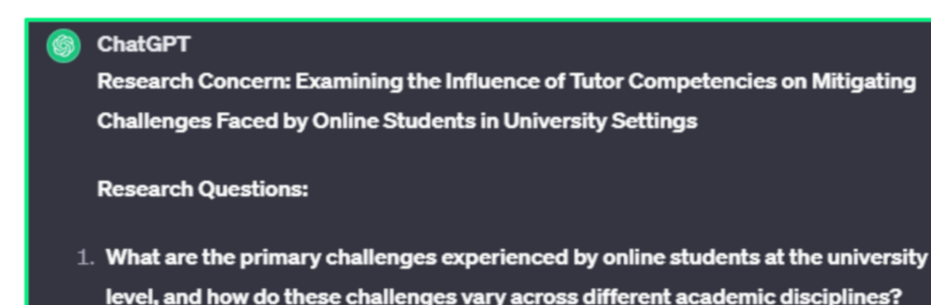
Step 1. Elaborate on a research concern including its main components for the qualitative or mixed methods research

- Artificial Intelligence can help elaborate a research concern
- Research concern has implicit the main concepts of the research. Use them with your initial literature review
- Consider aspects like political, contextual or historical sensitivity, time, funds or personal passion



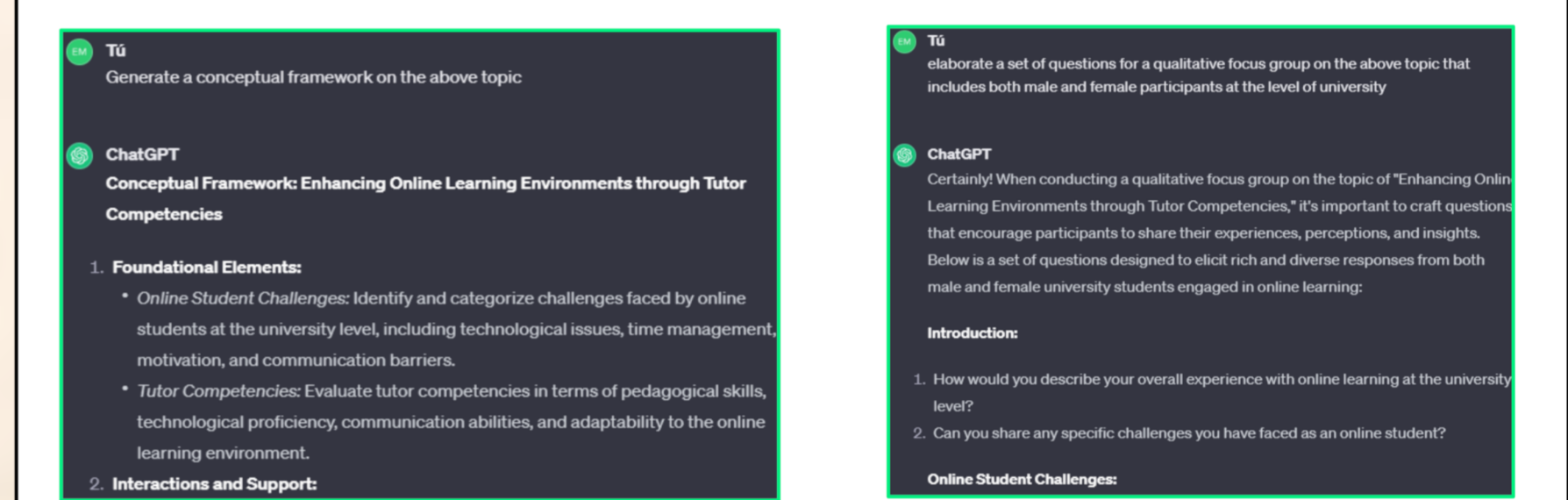
Step 2. Derive research questions and objectives from the research concern

- Artificial Intelligence can help with the formulation of research questions and research objectives
- Each research question has its methodological flow that decides if you need qualitative, quantitative or mixed methods approach to answer it and the methods involved
- Consider using MAXQDA 24 memos to set your research questions and objectives



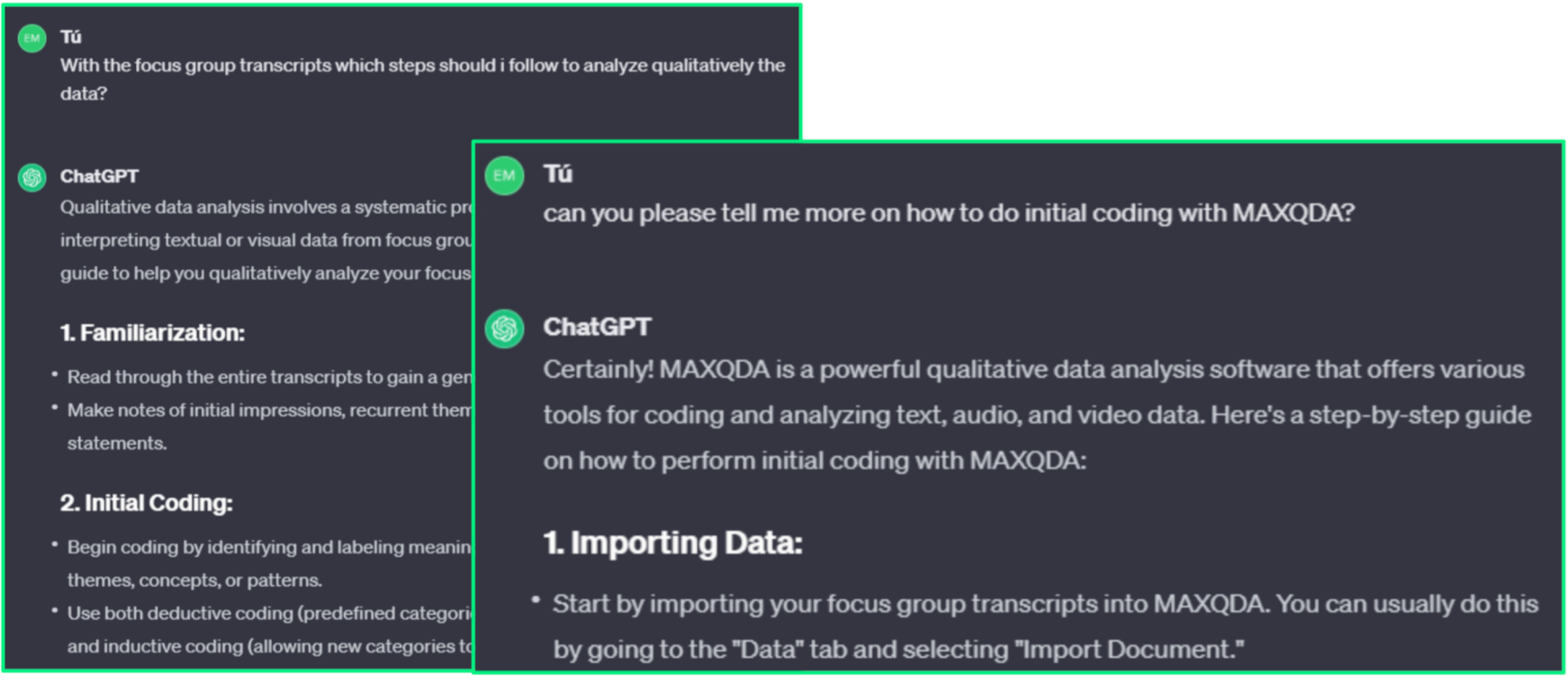
Step 3. Design field work, develop instruments and collect data from the field

- Literature review can help develop a conceptual framework on deductive research questions helped with AI
- Artificial Intelligence can support development of the tools



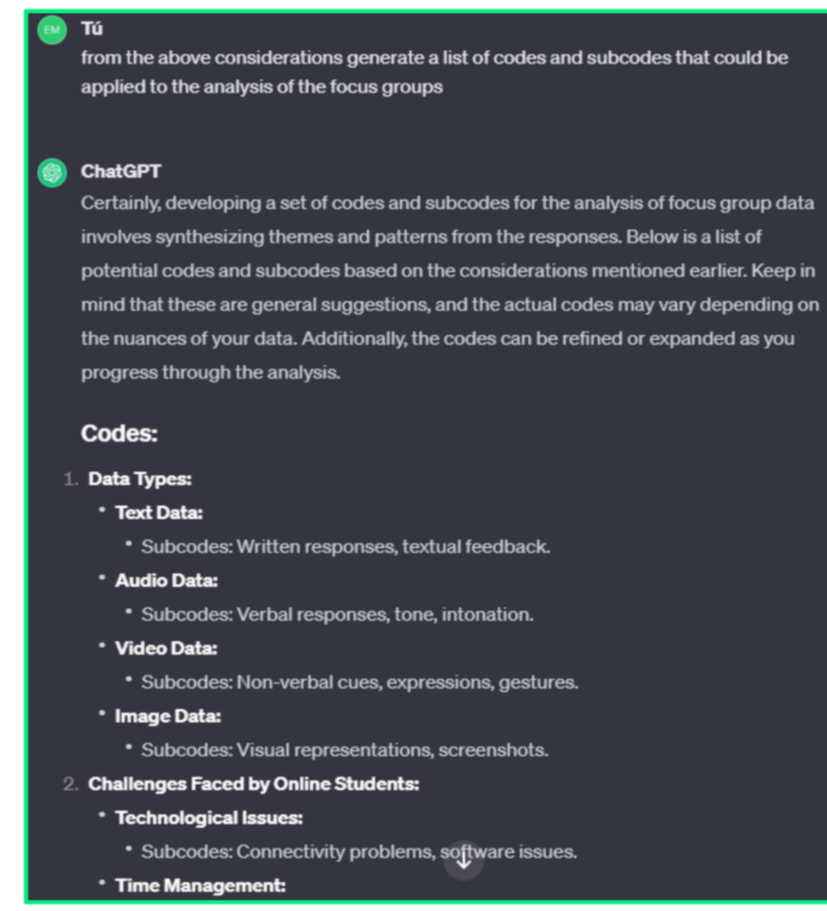
Step 6. Qualitative Data analysis

- Artificial Intelligence can give a hand with data analysis, but not always is as accurate as wished



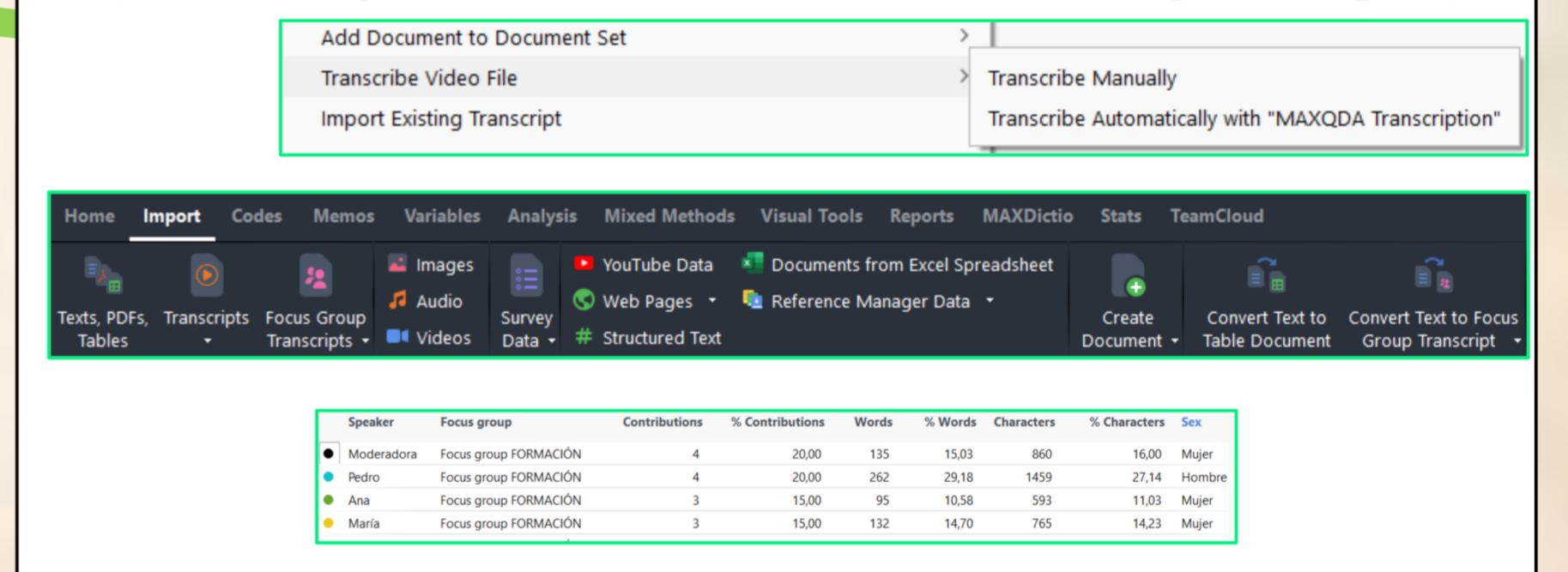
Step 5. Management of the codebook

- From your literature review supported with MAXQDA 24 you can easily develop a conceptual framework
- Artificial Intelligence can suggest codes and subcodes
- Codes and subcodes can be easily imported to MAXQDA 24
- From automatic transcription you can summarize a document or get code suggestions for it



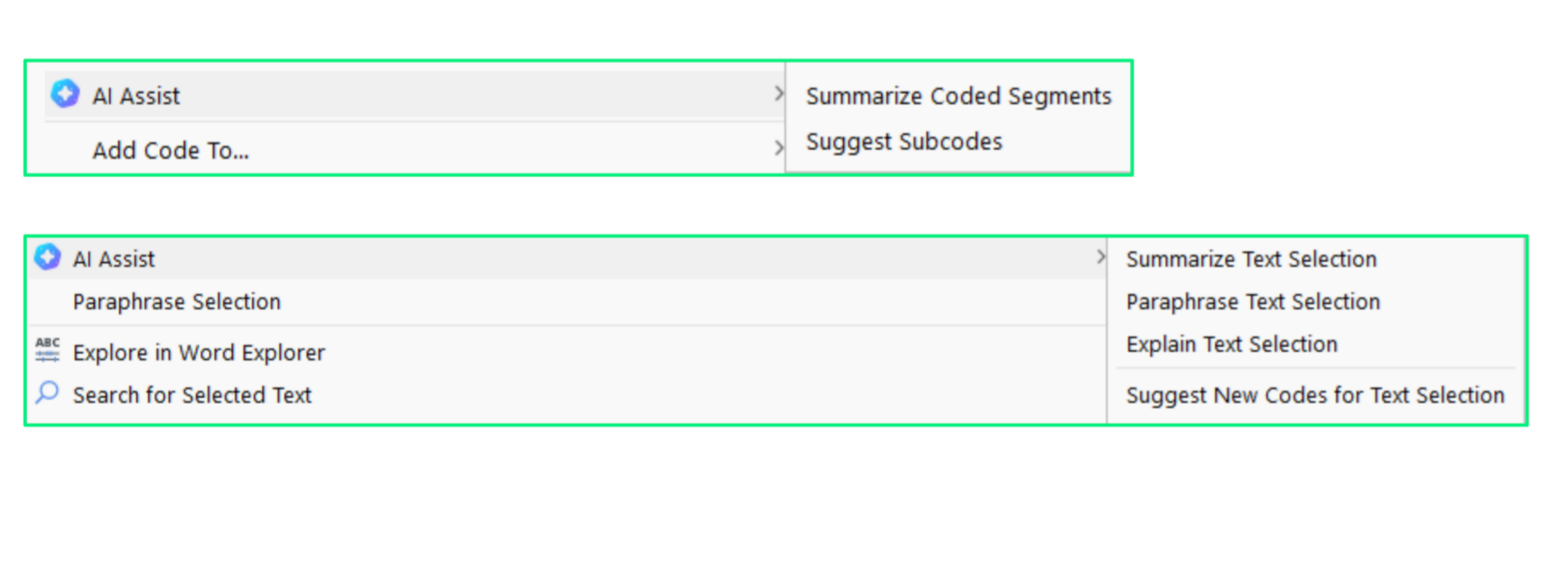
Step 4. Data management in MAXQDA 24

- Transcribe your data automatically
- Manage and order your data easily
- Specific analysis tools for concrete sets of data, e.g. focus groups



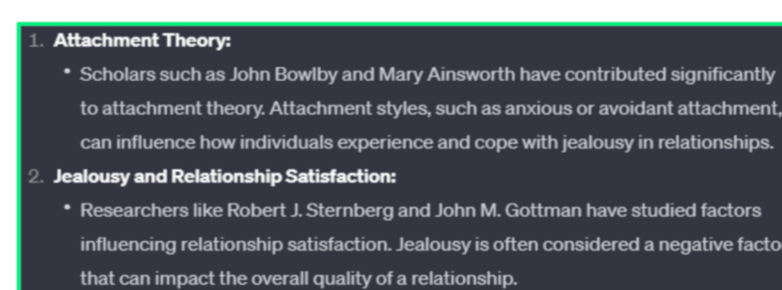
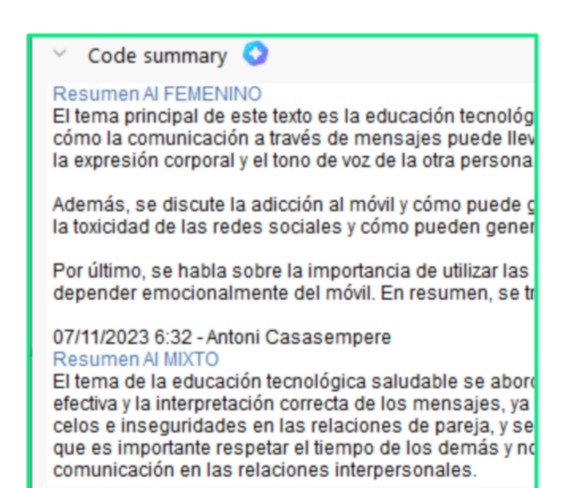
Step 7. Qualitative data analysis with MAXQDA

- MAXQDA 24 AI Assist can summarize documents, text, coded segments, etc.
- MAXQDA 24 AI Assist can paraphrase text, suggest subcodes or new codes or explain for us.



Step 8. Qualitative data analysis cycles

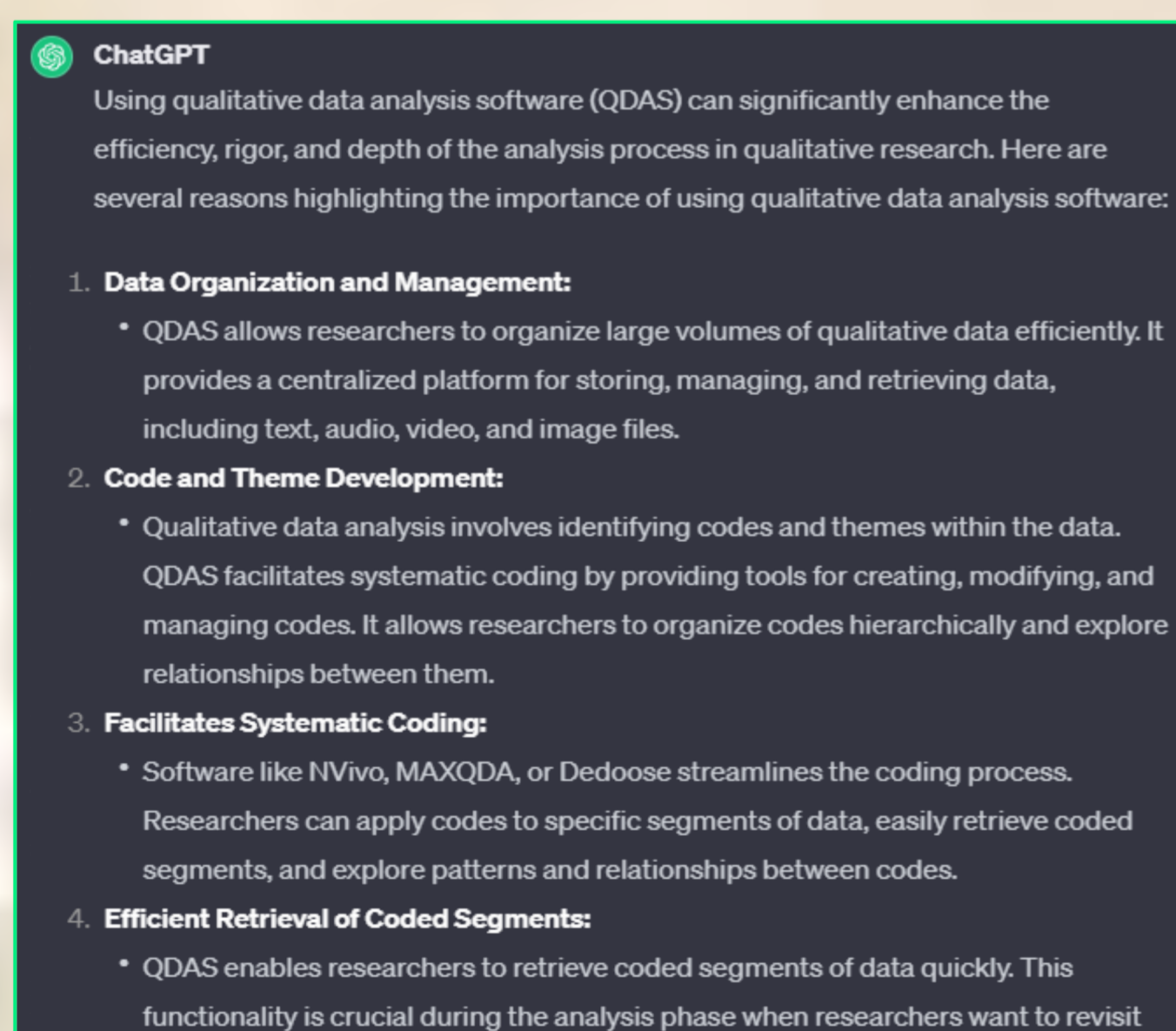
- Use sets or combinations of tools to improve the qualitative analysis
1. Code the data set manually and with AI Assist code suggestions
 2. Summarize coded segments of each category (use proper variable activation if apply)
 3. Elaborate a summary with AI to help build the conclusions in the report for different categories of a parent code
 4. Check the parts of the summary with AI to improve the discussion



Step 9. Future perspective on qualitative data analysis cycles

- Implementation of methodological well-known paths in MAXQDA with the support of Artificial Intelligence
 - Constant comparison method (Glaser & Strauss, 1967)
 - Thematic, evaluative and typological analysis (Kuckartz, 2014)
 - Tactics to generate meaning (Miles, Huberman & Saldaña, 2014)
 - Etcetera
- With the training of AI models or assistants in specific topics, being guided, by personal academic criteria, would make smooth the qualitative data analysis and avoid one of its worst characteristics for young researchers: the long periods dealing with data

Conclusion: There is currently a growing debate regarding the development of artificial intelligence and data design and analysis in qualitative research. The restlessness that we now have about ethical issues, data management, future implications of its use, etc., reminds us of discussions decades ago in which the use of qualitative research software to support qualitative data analysis was demonized. Today (2024), no one doubts the need to use tools that help researchers carry out quality research efficiently and effectively, however, the inclusion in research of AI, analysis software, design maps, etc. must always be subject to the experience and sensitivity of the researchers.



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