

When AI Codes the Data, Who Understands the Meaning?

Reclaiming Human Interpretation in Qualitative Research

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Reimagining Research in the Age of Artificial Intelligence

Research today is changing very quickly. Artificial intelligence has entered almost every stage of academic work. It can help researchers find literature, summarize articles, organize ideas, generate interview questions, classify responses, and even suggest possible codes from qualitative data.

For many researchers, this is exciting. Tasks that used to take days can now be completed in minutes. A long interview transcript can be summarized quickly. Repeated words can be identified easily. Initial categories can be suggested almost instantly.

But this situation also raises an important question: if AI can code the data, who actually understands the meaning?

This question is especially important in qualitative research. Unlike purely numerical analysis, qualitative research is not only about identifying patterns. It is about understanding experiences, context, emotions, culture, silence, contradiction, and human meaning. These are not simple technical objects that can be fully captured by an algorithm.

Because of that, the rise of AI should not make researchers less methodological. It should make them more reflective.



The Problem: When Coding Becomes Too Mechanical

In qualitative research, coding is often misunderstood as a technical process. Many students think that coding simply means labeling pieces of data, grouping similar answers, and creating themes. With this understanding, AI looks like a perfect solution. It can read text, detect patterns, and produce categories very quickly. However, coding is not just labeling. Coding is an act of interpretation. When a participant says, “I feel uncomfortable speaking English in class,” the meaning may not only be about speaking anxiety. It may also involve classroom power relations, fear of judgment, past learning experiences, cultural expectations, teacher feedback, or lack of emotional safety.

A machine may recognize the sentence as “anxiety,” but a researcher must ask deeper questions: Why does the participant feel uncomfortable? What kind of classroom creates this feeling? What social or cultural factors shape the experience? What is not being said directly?

Qualitative Research Is About Meaning, Not Only Data

This is where human interpretation becomes essential.

If researchers depend too much on AI-generated codes without critical reflection, qualitative research may become shallow. It may look organized, but it may lose depth. It may produce themes but not understand them.

The strength of qualitative research lies in its ability to explore meaning. It allows researchers to understand how people experience the world, how they make sense of events, and how context shapes their thoughts and actions. This is why qualitative research requires more than data processing. It requires sensitivity.

A good qualitative researcher does not only ask, "What did the participant say?" The researcher also asks, "What does this statement mean in this context?" "Why is this experience important?" "How is this meaning shaped by culture, identity, institution, or power?"

AI may help researchers see repeated words, common phrases, or possible categories. But the meaning is not always repeated. Sometimes, the most important meaning appears in hesitation, contradiction, emotion, or a single powerful statement.

In many cases, meaning is not on the surface of the text. It is located behind the words.

That is why qualitative research cannot be reduced to automatic coding. It must remain a human, reflective, and interpretive practice.

The Role of AI: Assistant, Not Researcher

This does not mean that AI should be rejected completely. AI can be useful when it is used carefully. It can help researchers manage large amounts of text, summarize interview transcripts, compare preliminary categories, or check whether certain patterns appear consistently across data.

AI can also help novice researchers learn how to organize data more systematically. For students who are new to qualitative research, AI may function as a learning support tool, especially when they are still trying to understand coding, categorization, and theme development.



The Role of AI: Assistant, Not Researcher

However, AI should remain an assistant, not the researcher.

The researcher must still make the final decision. The researcher must still return to the raw data. The researcher must still check whether the codes are meaningful, whether the themes are supported by evidence, and whether the interpretation respects the participants' voices.

In other words, AI may help with the workflow, but it should not replace methodological thinking.

The danger begins when researchers treat AI output as a final analysis. When this happens, the researcher becomes passive. The data may be processed but not truly understood.



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Reflexivity: The Human Element That AI Cannot Replace

One of the most important principles in qualitative research is reflexivity. Reflexivity means that researchers are aware of their own position, assumptions, background, and influence in the research process.

This is something AI cannot genuinely do.

AI does not have lived experience. It does not enter a research field. It does not build trust with participants. It does not feel ethical responsibility toward the people whose stories are being studied. It does not understand the emotional weight of a participant's silence or the cultural meaning behind indirect communication.

A human researcher does.

For example, in educational research, a student's short answer may reflect more than a lack of interest. It may reflect fear of authority, limited confidence, classroom hierarchy, or cultural politeness. A researcher who understands the local context may interpret this more carefully.

This is why reflexivity matters. It reminds us that qualitative research is not neutral to data extraction. It is a relationship between researchers, participants, context, and meaning.

AI can assist with the process, but it cannot carry out the ethical and interpretive responsibility of the researcher.

Methodological Awareness in the AI Era

The rise of AI makes methodological awareness more important than ever. Researchers need to understand when AI is useful, when it is limited, and when it may become dangerous.

Using AI without methodological awareness can lead to several problems. The analysis may become too general. The themes may sound impressive but lack connection to the real data. The interpretation may ignore context. The researcher may also fail to explain clearly how AI was used in the research process.

Therefore, researchers need transparency. If AI is used, they should explain what tool was used, for what purpose, at which stage, and how the researcher checked the output. This is part of maintaining trustworthiness.

Qualitative research needs credibility, dependability, confirmability, and transferability. AI does not remove these requirements.

In fact, it makes them even more necessary.

The future of research methodology should not be about choosing between human researchers and AI. It should be about building a responsible relationship between technology and human judgment.

Reclaiming Human Interpretation

In the end, the central question remains: when AI codes the data, who understands the meaning?

The answer should be clear. The researcher must understand the meaning.

AI may help identify possible patterns, but the researcher must interpret them. AI may summarize what participants said, but the researcher must understand why it matters. AI may suggest categories, but the researcher must connect them to context, theory, and human experience.

Qualitative research should not lose its soul in the pursuit of speed.

The goal of research is not only to produce neat themes or fast findings. The goal is to understand people more deeply and responsibly. In educational research, this means understanding teachers, students, classrooms, cultures, institutions, and learning experiences as complex human realities.

AI can do research faster. But only human interpretation can make research meaningful.

Closing Reflection

Artificial intelligence is changing the way researchers work. It offers many possibilities, but it also challenges us to rethink what it means to conduct research with depth, ethics, and responsibility.

For qualitative researchers, the task is not to fear AI, but also not to surrender interpretation to it.

The real challenge is to use AI wisely while protecting the heart of qualitative inquiry: human meaning.

Because in the end, data does not speak by themselves. AI does not fully understand itself. Meaning emerges when a thoughtful researcher listens, reflects, questions, and interprets with care.

When AI codes the data, the researcher must still be the one who understands the meaning.

