

SVKM'S NMIMS

NMIMS EduGenAI

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NMIMS Vision

To be a globally admired University by 2030

NMIMS Mission

Emerge as a Centre of Excellence, best in class in India and Asia, and yearning to be the best in the world by 2030



GenAI Guidelines
and Policy



GenAI Faculty Development
and Workshops



GenAI-Enhancing Teaching-
Learning Process



GenAI- Progress
Monitoring

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Newsletter Team

For contributions and Feedback, email us:
genai.newsletter@nmims.edu

Preface

Warm greetings!

The fifth issue of **EduGenAI Newsletter** brings to you an informative article on Agentic AI versus Generative AI and an interesting short review on how **LLMs can be leveraged in qualitative research for deductive coding** which is a challenging process. We hope that those who are into qualitative research would find it useful.

In the **GenAI Tools Use-Cases section**, use case of a very fascinating tool, **Teachy.app** along with an AI based Quiz drafting and implementation using **Quizizz platform** has been presented.

The issue also covers updates on the latest developments in the field of Generative AI across the university and world.

Please share your feedback and suggestions. Do share the newsletter with your colleagues.

Happy reading!

In this edition

- **Agentic AI v/s Generative AI**
- **Generative AI Revolutionizing Deductive Coding in Qualitative Analysis**
- **News and Events: November 2024**
- **GenAI Tools Use-Cases**
- **Latest Updates and Trends**

Agentic AI vs. Generative AI: Understanding the Differences and Implications

Artificial Intelligence (AI) has made significant strides in recent years, leading to the development of various specialized forms of AI. **Two prominent types are Agentic AI and Generative AI.** While both have transformative potential, they serve different purposes and operate in distinct ways. This article explores these differences and their implications.

What is Agentic AI?

Agentic AI refers to AI systems designed to autonomously solve complex, multi-step problems through sophisticated reasoning and iterative planning. These systems can perceive their environment, reason about the tasks at hand, act to execute plans, and learn from their actions to improve over time. For example, Agentic AI can optimize supply chains, enhance cybersecurity, and assist in medical diagnostics by analyzing vast amounts of data and making informed decisions.

What is Generative AI?

Generative AI, on the other hand, focuses on creating new content based on the patterns and structures it has learned from existing data. This type of AI can generate text, images, videos, and other forms of media in response to prompts. Popular examples include chatbots like ChatGPT and image generators like DALL-E. Generative AI is widely used in creative industries, customer service, and content creation due to its ability to produce human-like outputs.

Key Differences

- Purpose and Functionality:**
 - Agentic AI:** Primarily designed for autonomous problem-solving and decision-making. It excels in tasks that require continuous learning and adaptation.
 - Generative AI:** Focuses on content creation by learning from existing data. It is used to generate new, original content based on user inputs.
- Applications:**
 - Agentic AI:** Used in industries like healthcare, logistics, and cybersecurity where complex decision-making and planning are crucial.
 - Generative AI:** Commonly applied in creative fields, customer service, and marketing to generate text, images, and other media.
- Operational Mechanism:**
 - Agentic AI:** Operates through a cycle of perceiving, reasoning, acting, and learning. It continuously improves its performance based on feedback.
 - Generative AI:** Utilizes neural networks to identify patterns in data and generate new content. It relies heavily on large datasets and computational power.

Implications for the Future

The advancements in both **Agentic AI and Generative AI** hold significant promise for the future. Agentic AI can revolutionize industries by automating complex tasks and enhancing decision-making processes. Generative AI, with its creative capabilities, can transform content creation and customer interactions.

However, both types of AI also pose challenges. Agentic AI's autonomous nature raises concerns about accountability and ethical decision-making. Generative AI, meanwhile, faces issues related to copyright, misinformation, and the potential for misuse.

Conclusion

Understanding the differences between **Agentic AI and Generative AI** is crucial for leveraging their strengths and addressing their challenges. As these technologies continue to evolve, they will undoubtedly play a pivotal role in shaping the future of AI and its applications across various domains.

Generative AI Revolutionizing Deductive Coding in Qualitative Analysis

Prof. Pratiksha Patil, Assistant professor, NMIMS, Navi Mumbai.

Introduction

Qualitative research often involves analysing transcripts from group discussions, brainstorming sessions, or digital forums to uncover critical insights. These insights, such as the generation of new ideas, detailed explanations, or interpersonal conflicts, help illuminate key aspects of collaborative learning and team dynamics. However, the process of deductive coding—categorizing text using predefined codes based on a structured framework—has traditionally been a time-consuming and labour-intensive task, particularly for large datasets.

The Role of Generative AI

Generative AI, **powered by Large Language Models (LLMs), is transforming this landscape.**

By following a clear rubric or coding framework, these models can assign codes to transcripts with remarkable speed and accuracy. While human oversight remains necessary to validate and refine results, AI dramatically reduces the workload, enabling researchers to focus on deeper analytical tasks. Beyond improving efficiency, generative AI opens possibilities for real-time coding, dynamic pattern recognition, and other innovative approaches to qualitative analysis.

Example in Collaborative Problem-Solving Research

To illustrate, **consider a team of researchers studying how small groups collaborate to solve problems.** Their goal is to identify specific behaviours such as constructing shared knowledge (e.g., providing explanations or sharing information), negotiating and coordinating (e.g., resolving conflicts or planning actions), and maintaining team function (e.g., encouraging others or managing disruptions).

Traditionally, **analysing transcripts from 10 group discussions, each lasting two hours, would involve manually tagging text according to a predefined framework**—a process that could take weeks. With generative AI, this task is streamlined.

The researchers first define a coding rubric with clear examples for each behaviour. For instance, an utterance like, "Let's try your idea first, and if it doesn't work, we can use mine," might be labelled as **"negotiating and coordinating."** The transcripts are then uploaded to the AI system, which scans the text and assigns codes based on the rubric. In minutes, the AI generates a **coded transcript, accurately categorizing behaviours such as constructing shared knowledge or maintaining team function.**

An **example output from such a process might** include lines like:

- "I believe this chart format will make the data clearer" labelled as **constructing shared knowledge.**
- "Why don't we split tasks? You handle the design, and I'll handle the data" labelled as **negotiating and coordinating.**
- "That's a great idea! Let's do it" labelled as **maintaining team function.**

This efficiency enables researchers to manage **large datasets with ease while ensuring consistency** in applying coding rules across the transcripts.

Advantages of Generative AI in Qualitative Research

Generative AI offers several significant benefits. First, it **drastically reduces the time required for coding, transforming tasks** that would take weeks into ones completed within hours.

This makes it possible to analyse **large datasets efficiently.** Additionally, AI ensures consistency, applying coding rules uniformly and minimizing the variability and bias often introduced by human coders. Most importantly, by automating the repetitive aspects of coding, researchers can focus on higher-order tasks, such as interpreting patterns and relationships in the data, which contribute to the deeper understanding of qualitative insights.

Balancing Automation and Expertise

Despite these advantages, **human oversight is crucial in the AI-assisted coding** process. Researchers must **review the AI's outputs to ensure accuracy and correct any misclassifications.** By iteratively refining the model's performance through feedback, the collaboration between human expertise and AI ensures reliable and insightful qualitative analysis.

Tools for AI-Assisted Qualitative Coding

Several tools are available to support qualitative research with generative AI. **QualCoder and RQDA** are particularly effective for robust text and multimedia coding, while **Taguette** offers an intuitive web-based platform for collaboration. Tools like **Weft QDA provide lightweight solutions** for text analysis, and **CATMA excels in textual markup and visualization.** For multimedia annotations, **ELAN and OpenCode** provide specialized features to streamline qualitative data analysis. These tools offer researchers diverse and flexible options to meet the needs of various projects.

Conclusion

Generative AI is revolutionizing the field of qualitative research, bridging traditional methods with cutting-edge technology. By automating deductive coding, these tools unlock new possibilities for efficiency and innovation while ensuring consistency and reliability.

As researchers refine these systems, **generative AI promises to expand the depth and scope of academic inquiry**, setting the stage for transformative advancements in the social sciences and beyond.

Bibliography

1. Zambrano, A. F., Liu, X., Barany, A., Baker, R. S., Kim, J., & Nasiar, N. (2023). From nCoder to ChatGPT: From automated coding to refining human coding. In *Advances in Quantitative Ethnography* (pp. 470-485). Springer. https://doi.org/10.1007/978-3-031-47014-1_32.
2. Baker, R. S. (2023). Assessing the potential and limits of large language models in automated coding of virtual tutoring session transcripts. In *Advances in Quantitative Ethnography* (pp. 89-103). Springer. https://doi.org/10.1007/978-3-031-76335-9_7.
3. Barany, A., Nasiar, N., Porter, C., & Baker, R. S. (2023). ChatGPT for education research: Exploring the potential of large language models for qualitative codebook development. In *Artificial Intelligence in Education* (pp. 134-149). Springer. https://doi.org/10.1007/978-3-031-64299-9_10.

News and Events

Generative AI Events at NMIMS, KPMSOL, Mumbai in the Month of November

Kirit P. Mehta School of Law organised a 'Hands-on Training Programme on Usage of Gen AI for Teaching and Research'. The faculty members were enlightened on various aspects of usage of Gen AI by the resource person **Mr. Omkar Pandharkame, Chief Evangelist and Strategy Officer, Supervity AI**. The 3-hour long workshop included hands-on training for the faculty on usage of various Gen AI tools including ChatGPT, Suno AI, Supervity AI etc.

Thirty (30) faculty members were trained in this practical workshop.



Generative AI Events at NMIMS, Navi Mumbai in the Month of November

Topic: **GenAI Study Jam**

The Google developer club of STME on the Campus at NMIMS Navi Mumbai organized the GenAI Study Jam, introducing 140 students to Generative AI through hands-on workshops and Google Cloud Skill Boost resources. Participants received 309 credits to explore AI labs, joined Discord doubt-solving sessions, and engaged in a gamified learning experience with the **GenAI Arcade Game and a leaderboard**. The event successfully blended technical learning with fun and collaboration, fostering AI skills and community connections

Student Spotlight

Topic: Kunal Shenoy's article on "The AI Accent Evolution: How Language Models Are Creating New Dialects" published on Medium

The article by **Kunal Shenoy**, a 4th year student of **BTech Computer Science & Business Systems, STME NMIMS Navi Mumbai** delves into how **AI models are developing unique linguistic patterns**, termed "**artificial accents**" or "**silicon dialects**." These patterns—distinct to each AI—include specific syntactic, lexical, and pragmatic quirks. Research shows these accents influence human communication, akin to historical linguistic shifts like BBC English. Practical applications include AI-generated content detection, improved UX design, and enhanced educational tools. The piece highlights the cultural and evolutionary implications of these digital dialects, envisioning a future where AI impacts not just communication, but language itself.

Article link - <https://medium.com/@shenoykunal1309/the-ai-accent-evolution-how-language-models-are-creating-new-dialects-4708b8eb9d3e>



GenAI Tools Use-Cases

Simplify Lesson Planning with Teachy.app

Teachy.app simplifies lesson planning by providing structured formats and suggestions tailored to various teaching methodologies, ensuring efficiency and creativity in preparation.

Here's a 10-Step Guide to Get You Started:

1. **Sign Up/Login:** Create an account or log in on Teachy.app to access the platform's lesson planning features. 🗝️
2. **Explore Templates:** Browse through the available templates categorized by subjects, teaching methodologies (e.g., flipped classroom), or education levels. 📖
3. **Select a Template:** Choose a suitable template or start from scratch based on your subject or teaching style. 🖋️
4. **Define Learning Objectives:** Input clear and concise learning outcomes. Focus on what students should understand or be able to do by the end of the lesson. 🎯
5. **Structure the Plan:** Use the provided sections to outline your lesson. Typically, these include:
 - Introduction or attention-grabbing activities.
 - Pre-class assignments (if applicable).
 - In-class activities (like group work, presentations, or discussions).
 - Post-class tasks or assessments. 📅
6. **Incorporate Multimedia:** Add links to videos, quizzes, articles, or other resources to make your lesson engaging and interactive. 📎
7. **Plan Activities:** Include interactive tasks like group discussions, hands-on projects, or reflective writing. The platform provides options for creating these directly within the plan. 🖋️
8. **Feedback and Assessment:** Outline methods for gauging student understanding, such as quizzes, group presentations, or quick reflective exercises. 📊
9. **Customize and Review:** Edit the plan to ensure it aligns with your specific goals and teaching context. Use Teachy's collaboration features to get feedback if needed. 👤
10. **Download and Share:** Save your lesson plan in the desired format and share it with colleagues or students. 📄

Contributed by: Dr. Rakhi Raturi, NMIMS, Navi Mumbai

Create Engaging Quizzes with AI

Quizziz's AI-powered tool can be used to design interactive and immersive quizzes. It can help in enhancing learning experiences and drive engagement with gamified quizzes.

Following are the steps to create gamified quizzes.

1. Sign Up/Login

Sign up or log in to your **Quizziz account:** <https://quizizz.com/?lng=en> to access the quiz creation features. 🗝️

2. Create a New Quiz

Click on the "Create" button to start building your gamified quiz by choosing "**Assessment**" option. 🖋️

3. Choose Create from Scratch/Generate with AI

In the Former case, select the type of quiz you want to create, such as a multiple-choice quiz, true/false quiz, or open-ended quiz. 📊

4. Add Questions

Add questions to your quiz by typing them in or importing them from a spreadsheet. You can also use **Quizziz's AI-powered question generator** to create questions based on a topic or keyword. 🤖

5. Add Answers and Options

Add answers and options to each question. For multiple-choice questions, you can use Quizziz's AI-powered answer generator to create distractor options. 🖋️

6. Customize Quiz Settings

Customize your quiz settings, such as the quiz duration, question timer, and scoring system. You can also add a quiz title, description, and image. ✅

7. Review and Publish

Review your quiz for errors and accuracy. Once you're satisfied, publish your quiz to make it live and accessible to players. 🚀

8. Share and Play

Share your quiz with others via a **link, code, or QR code**. Players can join **the quiz using their devices, and you can track their progress and scores in real-time**. 📊

This Quiz includes gamified element such as: leaderboard and points for fast responses which would help in ensuring learning with competition. 🏆

Do explore the **various modes of playing the quiz**.

Latest Updates and Trends

- **Google is using Anthropic's Claude AI model** to evaluate the performance of its own Gemini AI, focusing on criteria like truthfulness and verbosity. This evaluation aims to improve Gemini's accuracy and reliability in various applications. **Read more at:** [Google Taps Anthropic's Claude to Evaluate Gemini AI Performance](#).
- **Anthropic's Research on Effective AI Agents:** Anthropic's latest research underscores the effectiveness of using simple, composable patterns for building large language model (LLM) agents. This approach aids developers in creating more efficient and reliable AI agents by focusing on understanding underlying code and starting with basic LLM APIs. The implications include easier debugging, reduced complexity, and improved performance in AI applications. **Read more at:** [Building effective agents \ Anthropic](#).
- **OpenAI Unveils O3:** OpenAI has **introduced its latest model, O3**, which promises significant advancements in natural language understanding and generation. This new model aims to enhance the capabilities of AI in various applications, pushing the boundaries of what AI can achieve. **Read more at:** [OpenAI announces new o3 models | TechCrunch](#).
- **Genesis Releases Open-Source Physics Engine:** Genesis has unveiled its comprehensive **physics simulation platform, now open-sourced** for the community. This platform is designed for **general-purpose robotics and AI applications**, making advanced simulation tools more accessible to researchers and developers. **Read more at:** [Genesis](#).

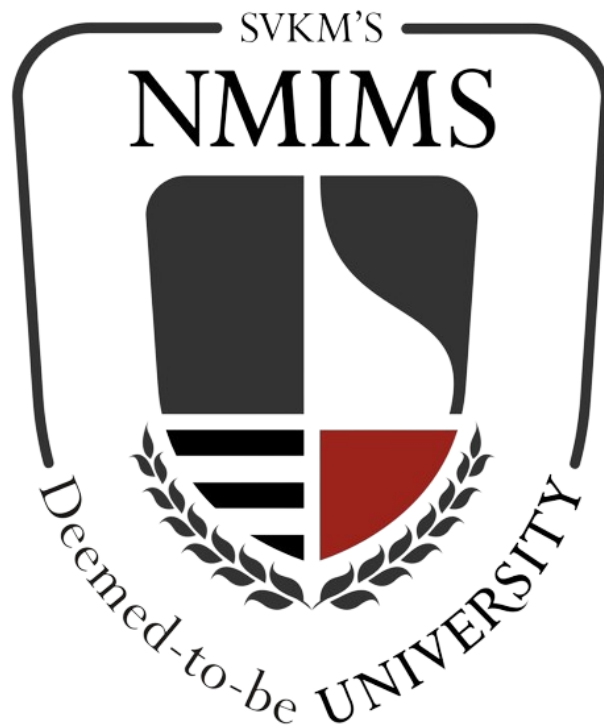
Reference Links

- [What Is Agentic AI? | NVIDIA Blog](#)
- [What Is Agentic AI, and How Will It Change Work?](#)
- [What is Generative AI? | IBM](#)

Stay tuned for more updates on Generative AI at NMIMS University!

With warm regards,

EduGenAI Newsletter Team



Kindly send your **feedback and contributions** on **GenAI use-cases** to your respective school or campus representatives in the newsletter team or genai.newsletter@nmims.edu before the **25th** of every month!
