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Generative Artificial Intelligence in Education: ChatGPT-4 Experiences to Anticipated ChatGPT-5

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ABSTRACT

Higher generative artificial intelligence (HGAI) models have shown promise for improving teaching and learning processes, as demonstrated by ChatGPT 4 and the soon-to-be ChatGTP 5. This is a major turning point in the field of educational technology. OpenAI's latest language model version is a significant resource for both teachers and students because of its sophisticated ability to comprehend, react, and engage in ways that closely resemble human-like discourse. By creating a more dynamic, tailored, and easily accessible learning environment, ChatGPT 4's incorporation into educational settings holds the potential to completely transform conventional approaches. In order to significantly increase teaching effectiveness and learning outcomes, the education sector is constantly looking for innovative ideas. With its advanced algorithms and extensive knowledge base, ChatGPT 4 is leading the way in this educational revolution. On the other hand, ChatGPT 5 will provide learners with a platform to enhance their critical thinking, creativity, and problem-solving abilities in addition to being an information resource. Teachers can design more varied and interesting learning experiences that meet the requirements of their students by utilizing HGAI. The remarkable capabilities of ChatGPT to carry out intricate tasks in the educational domain have generated conflicting emotions among educators, since this breakthrough in AI appears to transform current educational practices. This exploratory study presents some possible advantages and disadvantages of ChatGPT in fostering teaching and learning by synthesizing recent existing literature. In addition to discussing safe and constructive ways to use these emerging HGAI technologies to enhance education and promote students' learning, the study offers ideas on how policy makers, researchers, educators, and technology experts might engage ChatGPT to optimize teaching and learning in realizing sustainable development goal on education.

Keyword: Higher Generative Artificial Intelligence (HGAI), Educational Pedagogy, Artificial Intelligence (AI), Machine Learning (ML), ChatGPT 4, ChatGPT 5, SDG4

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1. INTRODUCTION

The objectives of Sustainable Development Goal4 (SDG4) are to provide opportunities for lifelong learning for everyone and to attain equitable, accessible, and high-quality education(Matthew & Kazaure, 2020). This purpose emphasizes the transforming power of education in achieving a just and sustainable world, is one of the most significant forces for optimism. The United Nations established 17 SDGs in September 2015, and one of them is better education, which aims to provide all citizens with the knowledge and skills needed to promote gender equality, human rights, sustainable development, sustainable lifestyles, nonviolent, peaceful cultures, and global citizenship actualization(Akçay et al., 2024). As part of the education for a sustainable future initiative, the United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to equip students of all ages with values, knowledge, attitudes, and skillset to combat global issues such as poverty, inequality, loss of biodiversity, climate change, and environmental degradation(Sabino, 2024),(Matthew, Kazaure, & Haruna, 2020). Not only does education contribute to the achievement of the SDGs, it also serves as a catalyst for social changes that are necessary to achieve other goals by fostering the development of skills, attitudes, and behaviors that will help realize a sustainable future(Rieckmann, 2018). In order for people to take ownership of their surroundings and realize a shift in behavior, the education system will play a critical role in helping them completely and accurately understand the SDGs. It has been established that higher education plays a crucial and multifaceted role in the new global development agenda, which aims to end poverty while addressing other social needs like extreme hunger and starvation, employment opportunities through digital technologies, improved healthcare systems and climate change sustainability(Matthew, Asuni, & Fatai, 2024).

The panorama of educational practices in the twenty-first century has rapidly transformed due to technological breakthroughs and the emergence of more sophisticated inventive digital content generating approaches like generative artificial intelligence(Matthew, Bakare, Ebong, Ndukwu, & Nwanakwaugwu, 2023). With the help of generative modeling, artificial intelligence, statistical probability, unsupervised and semi-supervised machine learning algorithms, computers can create entirely new content that looks authentic in the appropriate context by utilizing pre-existing content like text, audio and video files, images, and even code(Matthew, Oyekunle, et al., 2024). By evaluating training examples and comprehending their distribution and patterns, generative artificial intelligence makes use of existing digital content, such as text, video, images/graphics, and audio, to create artificial relics through advances in deep learning. Two notable examples of generative artificial intelligence that have been uncovered in the literature to date are Generative Adversarial Networks (GAN) and Generative Pre-trained Transformers (GPT)(Bengesi et al., 2024). In order to meet SDG 4 on instructional and pedagogical design, these technologies are essential for achieving the twenty first century educational objectives. By utilizing this tool, educators may better meet the individual needs and learning preferences of each student, resulting in a more welcoming classroom engagement(Matthew, Kazaure, & Okafor, 2021). The

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adversarial network determines the authenticity of the content by evaluating its genuineness, whereas the generator network generates synthetic data like a picture of a person's face for educational purposes. The process of verification is iterated until the generated material is recognized as authentic and the adversarial network is incapable of differentiating it from the authentic and original content.

GANs are mostly used in the production of graphics, audio, and video. On the other hand, creative writing on nearly any subject can be achieved using GPT models, from a paragraph to an extensive research essay, and with persuasive or nearly convincing results(Matthew, Bakare, et al., 2023). They accomplish this by utilizing a substantial amount of publicly available digital content to read and produce text that is similar to that of a human being in several languages. In order for the model to produce or generate new information, generative artificial intelligence enables computers to abstract the underlying patterns associated with the incoming data(Fui-Hoon Nah, Zheng, Cai, Siau, & Chen, 2023). Currently, the most popular generative artificial intelligence models are as follows: GANs which are systems that can process textual and visual input data to produce multimedia and visual artifacts. Transformer-based models which include technologies like GPT language models, that generate text content by gathering information from the internet and translating it. Variational auto encoders (VAEs) are employed in anomaly detection and image generating applications using multimedia software and hardware devices(Matthew, 2019). Realistic images and films model can be produced from random noise, or random collections of data points, by diffusion models. These models can converse with customers in a manner akin to that of fictitious characters in video games or chatbots for customer support. A more advanced iteration of the ChatGPT has been created recently with 175 billion parameters, that empowers GPT 4 achieves task performance gains as most advanced state-of-the-art generative artificial intelligence techniques(Ray, 2023). On November 30, 2022, OpenAI announced ChatGPT, a chatbot and virtual assistant that allows users to fine-tune and direct a discussion toward a desired duration, format, style, degree of information, and language based on huge language models. According to(Wang & Zhu, 2024), GPT 4 outperforms all previous non-sparse language models by ten times showing the trend of larger versions was maintained by ChatGPT 4 and other advanced model.

ChatGPT 4's incorporation with educational systems transforms the way evaluations and feedback are given, providing a more thorough and quick assessment of students' performance. The ability of an artificial intelligence (AI) model to comprehend and produce writing that resembles that of a human being makes it possible to develop advanced evaluation tools that give student's individualized feedback(D. O. Oyekunle, Nwaiku, et al., 2025). These developments not only simplify the assessment procedure but also improve the educational experience by providing students with immediate access to constructive criticism. Furthermore, ChatGPT 4 is a flexible tool that can be used to evaluate a wide range of skills because of its adaptability to different subjects and learning levels. ChatGPT 4 offers a comprehensive overview of student learning results by customizing assessments, ranging from language competency examinations to intricate problem-solving exercises, to match the educational objectives of each course. Currently, GPT 4

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serves as the foundational natural language processing(NLP) engine for the newly created language model ChatGPT(Siu, 2023). Several fields have expressed interest in this approach, including education, engineering, media, medical, economics, and finance. In the following sections, we described ChatGPT and spoke about how it might improve teaching and student learning. We also discussed how educators could use ChatGPT to supplement and improve their students' learning, as well as some of its drawbacks.

2. RESEARCH OBJECTIVES

This article addressed the integration of ChatGPT 4 into educational systems, comparing this performance to the planned ChatGPT 5, and discussing how higher generative artificial intelligence (HGAI) pedagogy transforms the way assessments and feedback are given in the state-of-the-art education by offering a more rapid and thorough assessment of performances from the broad educational adoption. With enhanced capabilities and additional features that distinguish it from its predecessors, GPT 5 is the most recent and sophisticated language model in the GPT series. There are many possible uses for it, such as chatbots, content creation, language translation, and automated question-answering systems. However, there are drawbacks and difficulties that must be resolved, just like with any sophisticated technology, including prejudice, moral dilemmas, and resource needs. GPT 5 has the potential to completely change how humans interact with language, and it marks a substantial leap in the field of overall NLP.

In this paper, the authors draw an analogy of ChatGPT 4 and ChatGPT 5 with sharp juxtaposition. It will be interesting to watch how GPT 5 and other language models change and affect our environment in the future as study and development continue. These technologies speed up the evaluation process and enhance learning outcomes by giving students instant access to constructive comments(Matthew, Kazaure, Kazaure, Nwamouh, & Chinonso, 2022). Because of its flexibility, ChatGPT 4 can be used to assess a wide range of competencies in a range of academic areas and ability levels. However, educators may fully utilize new technology to enhance the learning process by navigating these issues with caution and consideration. To ensure that students gain from both technology developments and the priceless value of human interaction and assistance, the goal is to use HGAI (ChatGPT 4 and ChatGPT 5) as a tool to supplement pedagogy approaches, not to replace all established educational methodologies. To guarantee that HGAI becomes a useful and enriching learning tool, its effective incorporation into educational settings necessitates careful consideration of ethical and pedagogical connections.

3. THEORETICAL FRAMEWORK

In order to attain SDG4, educators can use generative artificial intelligence to explore novel instructional methodologies, provide students with access to a greater variety of educational contents and foster innovative approaches to knowledge generation(Matthew, Oyekunle, et al., 2024). The development of HGAI into tools for educational pedagogy have allowed ChatGPT 4 and long awaited ChatGPT 5 to be widely used in a variety of educational fields, including healthcare, engineering, entertainment, and other digital content creating platforms as

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requirements for attaining sustainable education(Bozkurt et al., 2023),(D. Oyekunle, Matthew, Waliu, & Fatai, 2024). The application of generative artificial intelligence has strengthened the relationship between academic experts and other professions, raised the standard for secular education and training and also improved the quality of services and occupational delivery. It has also boosted the efficiency of medical diagnosis and treatment options through analysis of vast corpus of medical and clinical data warehouse repositories(Ebong et al., 2024),. This study pushed ChatGPT 4 and ChatGPT 5 technologies into the mainstream educational business in an attempt to support career professionals and educational technologists in fathoming the state-of-art constructive methodology for the twenty first century educational engagement. Among the very important feature of ChatGPT is that it facilitates language exploration. Students can edit sentences, practice pronouncing words correctly, understand sentence structure, and provide real-time interpretations that advance their comprehension of the material(Onyebuchi et al., 2022),(Onyebuchi et al., 2024). Writing essays or other written responses to exam questions is arguably the most important and contentious use of ChatGPT(Bui & Barrot, 2024). By entering instructions into this software, teachers and students can use it to create articles on any topic. In order to help users overcome writing obstacles and present novel perspectives on the topic they have chosen, ChatGPT can also provide advice on how to improve the grammatical structures, brevity, or clarity of several rewrites of the same essay portraying the broad adoption of information technology(IT) use in education(Gill et al., 2024).

An extension of IT, information and communications technology (ICT) emphasizes the importance of unified communications and the integration of computers and telecommunications wireless signals and phone lines(Matthew, Aderinola, et al., 2023), along with the enterprise software, middleware, storage, and audiovisual tools that are required to allow users to access, store, transmit, comprehend, and manipulate information(Matthew, Kazaure, John, & Haruna, 2021). ICT also refers to the merging of computer networks with telephone and video networks using a single cabling or link infrastructure. Combining telephone and computer networks under a single, unified system of cabling, signal distribution, and management has significant financial benefits. Any communication equipment, including radios, televisions, cell phones, computers, network hardware, satellite systems, and so on, as well as the different services and appliances that go along with them, including video conferencing and distance learning, are all included under the general category of ICT. Analog technology, including paper communication, and any communication channel are also included in ICT(Kazaure, Matthew, Okafor, & Okey, 2021),(Okwudili & Kazaure, 2020). ICT is a wide topic with constantly changing notions, which includes any device that can store, retrieve, alter, process, send, or receive digital information e.g., robots, digital television, email, or personal computers including smartphones. One of the various approaches for characterizing and overseeing the competencies of 21st-century ICT professionals is the Skills Framework for the Information Age(Matthew, Kazaure, & Okochi, 2022).

Higher education institutions are finding that AI applications are indispensable for staff support, tailored learning, smart educational systems, automated evaluation and pedagogic

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engagement(Hooda, Rana, Dahiya, Rizwan, & Hossain, 2022). They offer support that enhances learning results while cutting expenses in connection with Chatbots as a software applications powered by AI that mimic human-to-human communication. Those AI platforms formulate what they think are appropriate responses after assessing the conversation's context, answering a variety of questions because they were trained on large linguistic datasets(D. O. Oyekunle, Esseme, et al., 2025). A range of educational institutions, including professional development programs, universities, and elementary and secondary schools, can benefit from the deployment of chatbots like Google Bard and ChatGPT which provide personalized training as one of their key differentiators. According to (Dalalah & Dalalah, 2023), using ChatGPT has several obvious disadvantages, including the potential to produce false or inaccurate data and avoid plagiarism detection in situations where originality is crucial. Despite its potential to assist teachers in creating lesson plans, making suggestions, and serving as a virtual teacher for students by answering questions, ChatGPT is still a valuable teaching tool. In order to use ChatGPT as an instructional tool, academic regulations and evaluation procedures employed by educational institutions need to be changed or partly adjusted(Chaudhry, Sarwary, El Refae, & Chabchoub, 2023). It will be essential to inform both teachers and students about ChatGPT's potential and limits in order to address the transformative implications of the platform on the learning environment. Teachers may find ChatGPT to be a helpful tool as a starting point for creating course outlines, instructional materials, and assessment tasks. Nonetheless, there are concerns concerning the validity of the created content that need to be addressed. Creating training materials with ChatGPT for bots that are particular to a course could be one way to address this. Using ChatGPT, for example, can help students learn the English language by assuming the role of a native-speaker with whom the learner can communicate(Cho, 2023). Modernizing evaluation procedures and institutional standards is necessary to address the problems posed by AI materials appearing in educational assignments. Utilizing interactive tools, teachers can enhance the format of tests and assignments and reduce the likelihood of plagiarism on the AI generated digital content(Sevnarayan & Potter, 2024). Because the first version of ChatGPT was unable to process images and videos, it was more difficult for students who wished to use it for illegitimate purposes because there was no context. Yet, the massive multimodal model GPT-4 from OpenAI is capable of analyzing images by adopting GANs that can take textual and visual input data and turn it into multimedia and visual artifacts(Akhtar, 2024).

Enhancing teaching and learning experiences have been demonstrated to be possible through the integration of AI, especially Large Language Model (LLM)-based systems(Akhtar, 2024). The emergence of Multimodal Large Language Models (MLLMs) such as GPT-4 with vision (GPT-4V), which can handle multimodal inputs such as text, sound, and visual, ushers in a new era of personalized, enriched, and interactive learning environments in the educational system(Li et al., 2024). Rather than being solely text-based or unimodal, these situations might be multimodal pedagogy scenarios, which would improve accessibility, customizations, and potentially even learning efficacy. Google's research indicates that gains in LLMs are a sign of a paradigm change in NLP and comprehension. The ways in which these models are incorporated

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into a broad range of applications, from code completion to scientific problem-solving, illustrate their potential to revolutionize human usage and interaction with computational systems. Future developments suggest that LLMs will play an increasingly significant role in a range of human endeavors, as evidenced by the ongoing study of scale-related phenomena and the adaptability of LLMs to new activities. Furthermore, the naturalness of interactions is improved by the inclusion of multimodal models in Google Assistant, as shown in Look and talk: natural conversations with google assistant(Akhtar, 2024). With the integration of both visual and aural signals, on-device multimodal models properly ascertain user intent, facilitating more natural-sounding dialogues. Multimodal models are applied in real-world applications, especially in robots and autonomous vehicles, and are not restricted to human-oriented modalities. 3D object recognition accuracy is increased through the real-time fusion of sensor data from Lidar units and vehicle cameras, as demonstrated in 4D-net for learning multimodal alignment for 3D and image inputs in time(An et al., 2023). More comprehension of the surrounding environment is possible through the understanding and combining of data from many sensors.

Multimodal models are essentially a paradigm change in machine learning that allow single models to understand and provide outputs across multiple modalities contextually and fluidly. This development offers advancements in domains like health, science, creativity, robotics, and beyond, and holds enormous potential for a variety of applications in Google goods and services. Expanding upon GPT 3's achievements, ChatGPT 4 introduced additional enhancements for text comprehension and generation(Khan, Khan, Koubaa, Khan, & Salleh, 2024). It improved the model's capacity to respond to intricate questions and carry on protracted discussions, resulting in more seamless and organic interactions. The enhancements made in ChatGPT-4 were significant because they made the difference between having a simple chat and having an excellent one with an informed friend. Because of its improved capabilities, it is now much more useful for interactive applications like education and customer service. There are undoubtedly going to be a number of ground-breaking innovations and improvements in ChatGPT-5 that could elevate our interactions with AI(De Schryver, 2023). With ChatGPT5, one of the biggest upgrades to be anticipated is its improved capacity to comprehend and preserve context across lengthy talks. As a result, the AI will be more adept at recalling specifics from previous exchanges. As the conversation progresses, this will enable responses that are more cohesive and pertinent to the context. The combination of ChatGPT and the Internet of Things (IoT), which is revolutionizing how educators and students use new educational platforms for improved teaching and learning, will also have a significant positive impact on online education(Matthew, Kazaure, Kazaure, Onyedibe, & Okafor, 2022). With the incorporation of NLP into IoT, educators and devices may now have more casual and straightforward discussions. The IoT and NLP are complementary technologies that enable educators and ChatGPT to have more organic, happenstance-based interactions using online collaboration platforms such video conferencing systems and instant messaging apps on devices like tablets, e-readers, and smartphones(Ugochukwu Okwudili Matthew, Ado Saleh Kazaure, et al., 2022).

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4. CHAT GPT 4: ALGORITHMS & TECHNIQUES

A significant advancement in the field of natural language processing is represented by ChatGPT 4. This enhanced GPT language model, created by OpenAI, predicts the word that will come after a given one in a sentence by using the words that have come before it. ChatGPT 4 can produce coherent and fluid text because it has been trained on a large corpus of text data, which includes books, essays, and web pages(Yigci, Eryilmaz, Yetisen, Tasoglu, & Ozcan, 2024). This has allowed it to understand the fundamental patterns of language. It surpasses its predecessor, GPT 3, which contained 175 billion parameters, to become one of the largest language models in existence with a capacity of over a trillion. ChatGPT 4 can now generate even more complex and lifelike text with higher accuracy because to this boost in capacity. Translating, summarizing, and responding to questions are some of the more difficult jobs it can manage. It can also grasp the context and intended meaning of the text more clearly and exerts more control over the resulting material. Additionally, ChatGPT 4 boasts improved multilingual comprehension and generation skills, even in low-resource languages that are hard for language models to handle. The reason behind this is its sophisticated training methodology, encompassing an extensive array of textual data across multiple languages and domains. The groundbreaking development of ChatGPT 4 in natural language processing extends the frontiers of what may be accomplished with text created by artificial intelligence(Ong, Hariprasad, & Chhablani, 2023). There are numerous uses for its highly accurate and sophisticated capacity to comprehend and produce writing that is human-like, ranging from content creation to language translation.

5. RESEARCH METHODOLOGY

To determine ChatGPT's possible value in education, we used an exploratory methodology. This methodology's goals are to: (a) thoroughly examine and investigate ChatGPT's level of interactivity; (b) highlight the ways in which ChatGPT and related generative AI can improve teaching and learning; and (c) consider any potential risks associated with using ChatGPT and related generative AI in the classroom. Finally, the methodology will offer reflections and practical implications. In order to uncover pertinent answers to the higher education pedagogical link to the developing ChatGPT, the study was directed by the following research questions: (a) To what extent is ChatGPT interactive? (b) What are the possible advantages of generative AI, such as ChatGPT, in improving education? (c) What potential negative effects might ChatGPT and related generative AI have on teaching?. The research focus was on ChatGPT's openly accessible materials published between December 2022 and September 2024. In particular, the authors concentrated on publications from preprints and peer-reviewed journals as well as articles from newsletters and social media.

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6. GPT 5: THE NEW FEATURES FOR EDUCATIONAL PEDAGOGY

The most recent language model in the GPT series, GPT5 has a number of unique characteristics that make it different from its predecessors. So when will ChatGPT 5 be available? Early 2025 or Late 2024? It is true that OpenAI has not yet disclosed the official date of ChatGPT 5's release. We can, however, estimate based on the company's previous delivery timeline. In June 2020, ChatGPT 3 was released, then in November 2022, ChatGPT 3.5. Given that ChatGPT 4 was released in early 2023, if OpenAI keeps on a similar pace, we can anticipate ChatGPT 5 to be delivered in late 2024 or early 2025. The following are a few of the most noteworthy GPT 5 updates:

i. **Improved Architecture for better Context Understanding:** GPT 5 can process and synthesize language more accurately and quickly than its predecessor's acknowledgments to its complex architecture. This architecture's graph neural networks and attention mechanisms help the model understand the relationships between words and phrases. Because of this, when a request is received by GPT 5, it might be forwarded to the expert or experts with the highest processing and response capacity. GPT 5 will be able to respond to a range of difficult jobs more swiftly and economically as a consequence. In actuality, nothing fewer than 200billion parameters are ever employed at once. An AI that can remember your preferences, comprehend complicated instructions, and easily switch topics without losing track of the original thread is what you would expect from a conversation partner.

ii. **Advanced Training Methods and Advanced Learning Adaptation:** GPT 5's ability to learn and generalize linguistic patterns is enhanced by the use of a larger and more varied training dataset. Furthermore, GPT 5 learns from unstructured data without human supervision appreciations to unsupervised training. The AI's enhanced capacity for learning and adaptation is another aspect that is anticipated. With time, ChatGPT 5 will become more adept at adjusting its responses to become more precise and pertinent by learning from user interactions. Because AI is constantly learning, it will become more efficient the more it is utilized, resulting in an ever-better user experience. The AI's enhanced capacity for learning and adaptation is another aspect that is anticipated. With time, ChatGPT 5 will become more adept at adjusting its responses to become more precise and pertinent by learning from user interactions. Because AI is constantly learning, it will become more efficient the more it is utilized, resulting in an ever-better user experience.

iii. **Multilingual Assistance and Multimodal Features:** GPT 5 is a useful tool for language translation and other applications that need multilingual assistance because it is made to accommodate several languages. More sophisticated multimodal features will probably be integrated into ChatGPT 5, allowing it to handle and produce not only text but also graphics, audio, and maybe video. Numerous new applications would

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become possible as a result, including helping with video editing, producing intricate visual material, and offering more dynamic and captivating user experiences. For instance, both experts and enthusiasts would find great use for an AI that could examine a picture of a plant and identify any illnesses or offer maintenance advice.

iv. **Enhanced Personalization and Enhanced Language Modeling Functions:** ChatGPT 5 is anticipated to provide enhanced personalization due to its more advanced algorithms. The AI will have the ability to respond to users more precisely by taking into account their interaction history, preferences, and unique requirements. AI-driven tutoring, personal assistant, and customer care applications may become much more efficient and fulfilling with this customized touch. Imagine an AI that is aware of your favored reading and viewing genres, preferred method of learning, and even your daily routine so that it may make suggestions or send you reminders in line with it. With GPT 5, language comprehension and production will be more akin to that of a person. It can produce more cogent and rational responses as well as understand and develop more complex and subtle linguistic patterns, such as irony and sarcasm.

v. **Scalability, Increased Efficiency, and Ethical AI Deployment**: Enhancements in ChatGPT 5's efficiency should lead to quicker reaction times and increased capacity for multiple conversations at once. As a result, the AI will be more scalable and suitable for deployment in high-demand settings without sacrificing functionality for developers or enterprises. ChatGPT 5's increased efficiency will be a huge help, whether it's handling thousands of consumer inquiries at once or offering real-time support in a crowded online classroom. The ethical application of OpenAI's models has been the subject of increasing attention, and ChatGPT 5 is probably going to bring more developments in this regard. By emphasizing ethics, AI applications will become more dependable and trustworthy, increasing their acceptability and safety in a variety of contexts.

vi. **Integration with Other Technologies:** Improved platform and technology integration is something that ChatGPT 5 ought to provide. This might include more robust APIs for developers, easy interaction with IoT devices, and connection with different enterprise software solutions, virtual reality and augmented reality integration. The usability of ChatGPT 5 will be increased across various sectors and applications with these integrations. Yes, everything from complex data analysis in business settings to managing smart homes.

7. GPT 4 VERSUS GPT 5: A COMPARATIVE ANALYSIS

Both GPT 4 and GPT 5 are strong language models, yet GPT 5 has a number of advantages over GPT 4. Generally, GPT 5 is a major improvement over GPT 4 while being a powerful language model due to its sophisticated architecture, improved training methods, and enhanced language modeling capabilities.

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Table 1: Comparison of the two models: ChatGPT 5 and ChatGPT 4

Language Model Features	ChatGPT 4	ChatGPT 5
Architectural Design	Transformer-oriented design.	Attention-based architecture in combination with graph neural networks.
Techniques for Training Data.	Supervised learning	Unsupervised learning using a wide range of datasets.
Ability to Model Languages	Ability to produce language that makes sense within a relevant context.	Able to comprehend and produce increasingly sophisticated and subtle language, incorporating irony and sarcasm.
Multilingual Assistance	Mostly intended for natural language processing in English.	Designed to accommodate multimedia features and several languages translations.

There have been reports that GPT 5 will be released by late 2024 or early 2025. It is projected to be a ground-breaking AI model that will provide previously unheard-of improvements in comprehending, producing, and interacting with human language in a range of applications. The main point of contention between GPT 4 and GPT 5 is how far each has come in AI, with GPT 5 predicted to outperform GPT 4 in terms of producing, comprehending, and interacting with human language more accurately and sophisticatedly. Although GPT 4 has established high benchmarks for AI performance(Martínez, 2024), GPT 5 seeks to go beyond these limits and maximize AI's potential in a wider range of intricate applications.

8. CHATGPT 4 TO CHATGPT 5 AI MODEL PARAMETER

The progression from GPT 3 to GPT 4 and the expected improvements in GPT 5 signify noteworthy developments in the field of artificial intelligence(Yenduri et al., 2024). Selecting the best model for your goals requires an understanding of the parameters, capabilities, performance, and potential applications of each model, which may be gained by comparing GPT 3 vs. GPT 4 vs. GPT 5. While the precise specifications of GPT 5's characteristics are still unknown until the technology is formally unveiled, the AI community anticipates that GPT 5 will carry on the tradition of increasing scale and complexity that its predecessors started. Experts predict that GPT

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5 will push AI models into new areas of understanding and performance, dramatically enhancing their capabilities. ChatGPT and other AI models function by decomposing textual data into tokens. Three-quarters of an English word is about equivalent to a token. An AI model's ability to handle these tokens is determined by its parameters. The context length, also known as the window, is the maximum amount of tokens that an AI model can handle. In this approach, GPT 4 can react more quickly and affordably to a variety of complicated tasks with much fewer than 1.8 trillion parameters are in use at any given time.

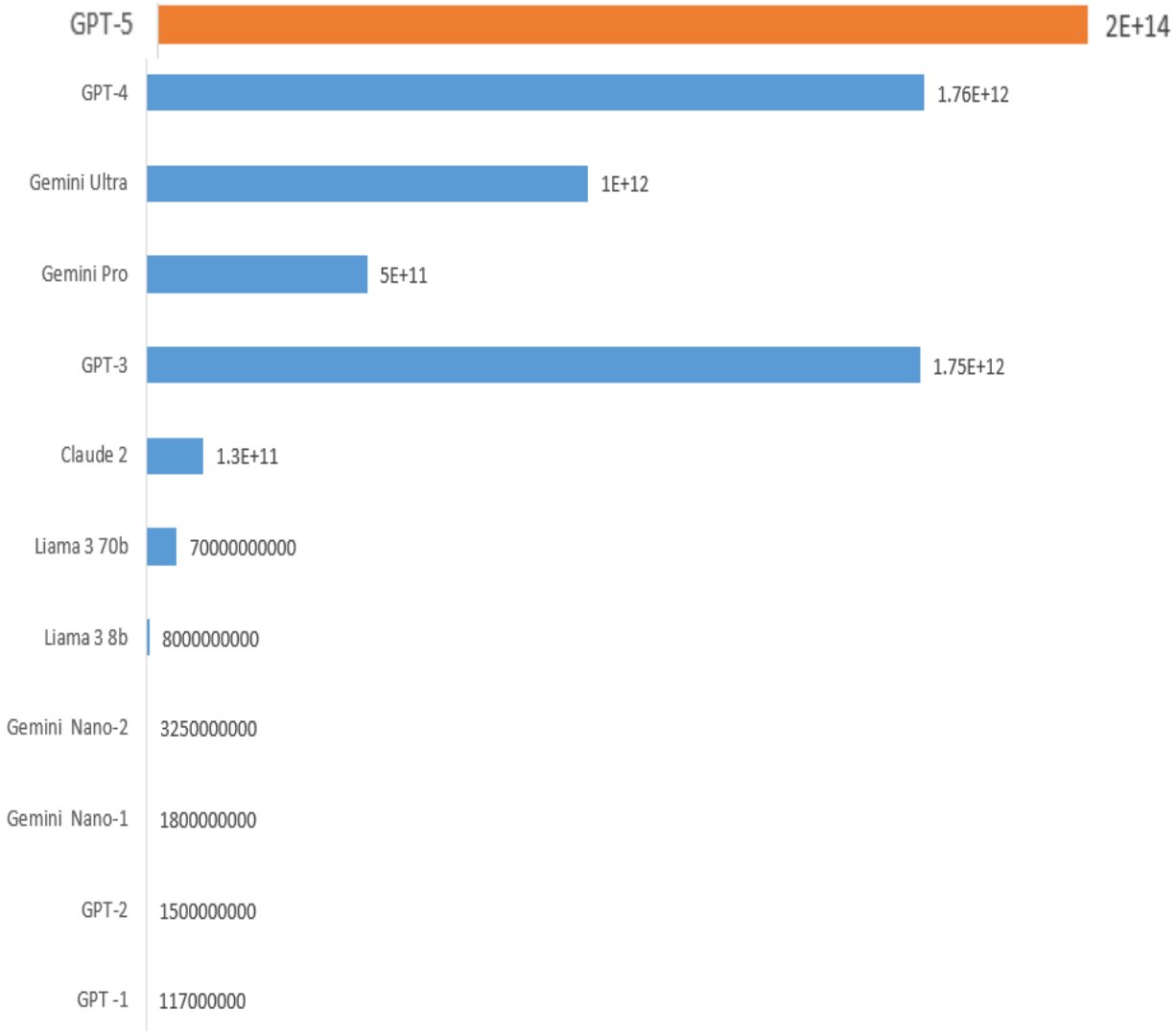

Figure1: Number of parameters in the Generative AI Models

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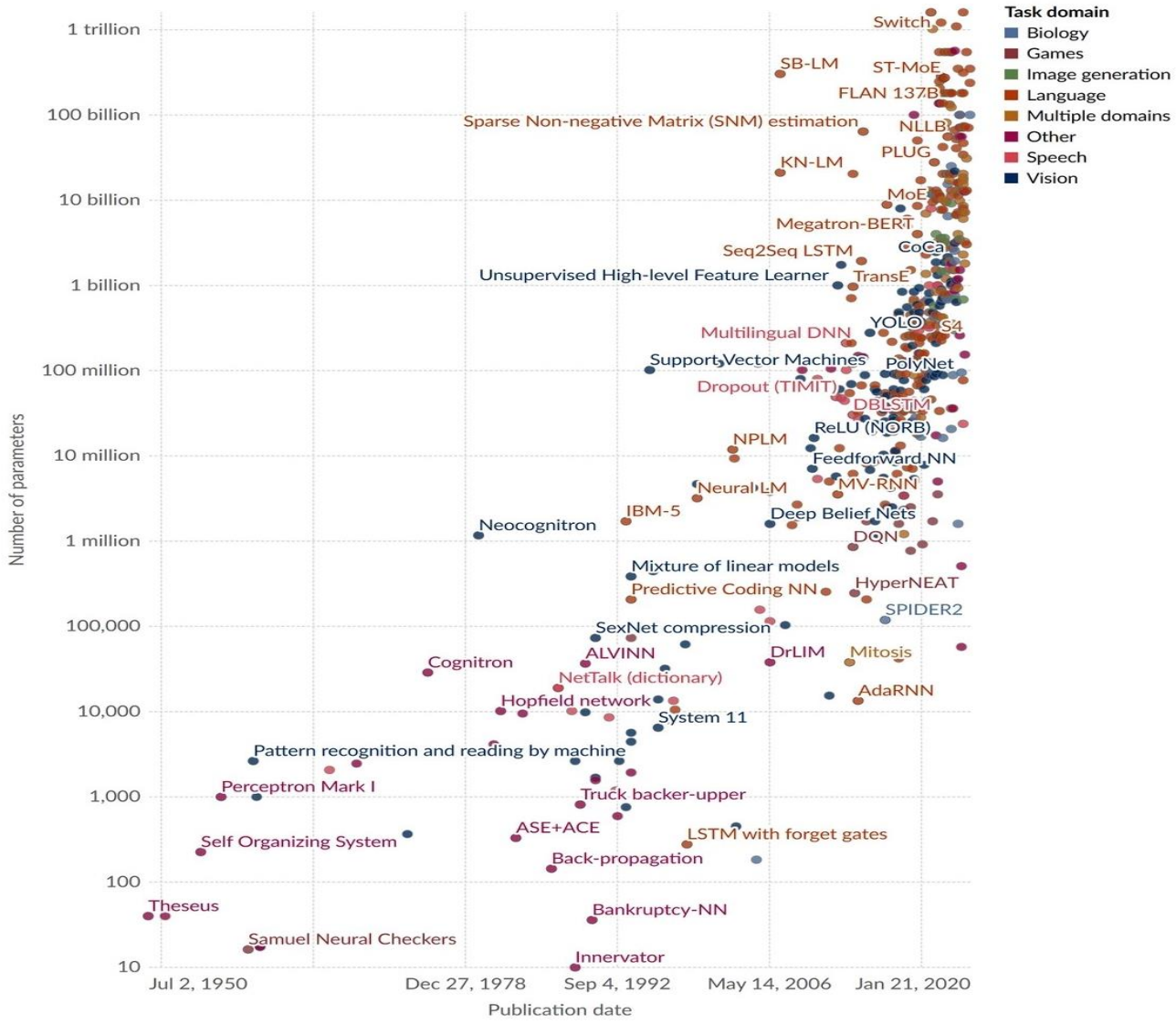

Figure 2: Parameters in notable artificial intelligence systems. An AI system's parameters, such as the connection weights in an artificial neural network, are variables whose values are changed during training to determine how input data is converted into the intended output.

9. IMPLICATIONS OF CHATGPT IN EDUCATION

Our research has significant implications for the agenda of SGD4 for higher education institutions, policy makers, instructors, and students. Specifically, our findings indicate that time pressure and heavy workloads are becoming compelling factors that drive students to use ChatGPT

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for their academic tasks as a shortcut means. As a result, higher education institutions should emphasize the importance of efficient time management and workload distribution when assigning academic tasks and deadlines. Although ChatGPT can help students manage heavy workloads under time constraints, students should be made aware of the negative effects of excessive ChatGPT usage. Rather than being a tool for students to complete academic tasks without putting in cognitive effort, students should be encouraged to use ChatGPT as a complementary resource for learning rather than as a means of managing heavy workloads(Abbas, Jam, & Khan, 2024). In the same spirit, motivating students to strike a balance between their own initiative and technological support can support a comprehensive method of education. In a similar vein, curriculum developers and educators ought to create curricula and pedagogical approaches that capitalize on learners' innate curiosity and enthusiasm for learning. Though ChatGPT's simplicity of use may be enticing, an atmosphere that encourages students to find fulfillment in autonomously grasping difficult concepts can lessen the need on generative AI techniques(Bozkurt et al., 2023).

Additionally, commending students for their real intellectual achievements might instill a sense of pride in them that might outweigh the appeal of instantaneous AI-based solutions(Abbas et al., 2024). Teachers should reconsider how they evaluate student performance and create new assessment criteria that force students to apply critical thinking and creativity to assignments and projects rather than relying solely on generative AI tools(Ebong et al., 2024). This will help to deter students from abusing ChatGPT. Furthermore, teachers ought to push students to actively participate in critical thinking and problem-solving by giving them tasks, assignments, or projects that ChatGPT cannot finish, considering the preliminary data that suggests prolonged use of the app negatively impacts students' academic performance and memory. As a result, ChatGPT's negative effects on their mental and educational processes may be lessened. Teachers can also help children understand the possible risks associated with using ChatGPT excessively(Zhang, Zhang, Cai, Wang, & Zheng, 2024). Ultimately, educators and representatives can create solutions that focus on the effects, such procrastination, memory loss, and academic performance as well as the underlying causes like workload, time constraints, and reward sensitivity. Interventions such as skill-building workshops, awareness campaigns, and individualized instruction could enable students to efficiently utilize generative AI tools while maintaining their individual learning.

10. CONCLUSION

When it comes to the goals of global sustainable education, technology is never ideologically neutral. It represents specific modes of thinking and knowing as well as demonstrates and prioritizes particular worldviews. This also applies to new generative AI models and tools. Compared to AI technology supporting regular Google or other web searches, AI chatbots such as ChatGPT offer a radically different user experience. In response to user inquiries, search technology creates a menu of mostly human-produced information and ranks it. Big language model chatbots, on the other hand, use content generated by machines to offer unique and far more authoritative-looking responses. That's why AI chatbots work like oracles with unlimited knowledge. OpenAI's next model, the GPT 5, is expected to significantly advance AI capabilities.

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GPT 5 is poised to revolutionize what we previously believed to be achievable from AI with its advances in context handling, issue solving, video creation, multimodal processing, reasoning skills, humanlike help, processing speed, and dependability. The enormous and transformative potential applications and advantages of GPT 5 across multiple industries, which we anxiously await, mark the beginning of a new era in artificial intelligence.

Generative AI is evolving at a rate that has never been witnessed before, rapidly expanding the realm of what educational robots can achieve with each iteration of AI models. The GPT series from OpenAI, whose GPT 4 has transformed natural language processing, has taken the lead in this revolution. As anticipation for the upcoming GPT 5 model's release builds, it's imperative to look at the features and advances it could offer. It's important to keep in mind that, despite our eagerness for specifics around GPT 5, the conversations we're having right now are based primarily on conjecture and simple forecasting, drawn from historical data, broad AI trends, and a few subtle hints that OpenAI's team appears to be sharing. No matter how things progress, the GPT series' emergence stimulates people's interest and holds out the prospect of a time when artificial intelligence will only be constrained by our capacity to imagine its uses. The extraordinary capabilities of the GPT 5 have the potential to revolutionize a number of sectors and result in scientific discoveries that will benefit humanity. The possibilities are boundless and range from enhanced virtual assistants to innovative image production. By expanding on the achievements of its predecessors, GPT 5 is poised to push the limits of what AI is capable of. A new era in AI development may be ushered in by GPT 5's multimodal learning capabilities, larger context window, quicker inference speed, and more intelligent reasoning. AI has a bright future ahead of it, with countless opportunities for advancement and innovation if OpenAI keeps safety and ethical concerns at the forefront.

CONFLICT OF INTEREST

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