Chatgpt & Google Bard AI: A Comparative Study From Student's Perspective.

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1 Introduction:

The motivation behind choosing this research topic is that rising generation will be based on AI i.e. Artificial Intelligence. Artificial intelligence is a specialty within computer science that is concerned with creating systems that can replicate human intelligence and problem-solving abilities. AI has its origin in the 1950s when scientists like Alan Turing and Marvin Minsky began to explore the idea of creating machines that could think and learn like humans. In 1956, AI was officially named and began as a research field at the Dartmouth conference. The time between when the term 'Artificial intelligence' was invented and the 1980s was a period of both rapid growth and struggle for AI research. In 1981, Japan launched the fifth-generation computer project, which aims to develop the new generation of computers that can understand and use human language. There, after was a lot of peaks and valleys in AI research. But in the late 2010s and in the early 2020s, various models like GPT made waves in the industry. Because of this AI tools, it has become convenient for people to work and study efficiently. Currently, AI is rapidlyevolving in various fields like automation, image analysis, etc.

It provides the following benefits of Artificial Intelligence:

Reduction of human error: It is one of the most important benefits that reduces the human error. As AI works with certain set of system.

Zero risks: Another benefit of AI that all tasks are performed by AI. So, there is zero risks and it provides accurate with great responsibility.

24x7 availability: There are many studies that a human can productive only for 3-4 hours in day. But AI is available for 24x7 for the user.

Unbiased decisions: Human being thinks emotionally which leads to biased decision. Whereas AI does not think emotionally and hence, decision taken by AI are unbiased.

Although, AI has made important development, but there are some limitations which are as follows:

High costs: The skill to make a system that can replicate human intelligence is no small achievement. It requires abundant of time and resources and can price a huge deal of money.

No creativity: AI does not have the ability to think outside of the box. Because AI is capable of learn pre-fed data, hence AI has no creative in its responses.

Make humans lazy: AI has automated the tiresome and repetitive tasks. Since human does not need to think and learn to accomplish the task, its making human being lazy.

On November 30, 2022, ChatGPT was officially launched built upon the foundation of GPT-3.5. It was founded by Sam Altman, even known as the father of ChatGPT. ChatGPT is specifically designed for conversational applications. Within months, it became the fastest growing consumer software application in history. ChatGPT understand for what we are looking for. Then it guesses what we want from its massive knowledge. It chooses the best words to give a best answer to its user. It even gets knowledge from every interaction. Here are the benefits provided by ChatGPT like helps in homework and preparation of exam, provides assistance to educators and improves accessibility to education, etc. It also has some disadvantages like lack of integrity, provides inaccurate information, etc.

On February 6, 2023, Google announced Bard (short for "Bilingual, Adaptive, Research, and Dialogue"), a generative artificial intelligence chatbot powered by LaMDA. It was founded by Sundar Pichai, the CEO of Google. Google Bard AI is a informal and chatty. AI chatbot by Google that can help us produce dissimilar kinds of text. Bard AI is still untried but trained on a enormous dataset of text and code to generate text, decode languages, write diverse kinds of creative content, and answer your questions in an educaitonal way. With its latest update, Google Bard AI now uses the Pathways Language Model (PaLM2), which allows it to be more efficient and perform. In the beginning of February 2024, Google Bard AI was renamed as Gemini. Bard AI was trained around natural-sounding conversational queries and responses. Instead of just giving a list of answer, it provided context to the responses. It was also designed to help with follow-up questions. It provides the following benefits to its user such as access to real time information, ability to generate different creative text formats, multilingual capabilities, etc. On the other hand, there are some disadvantages like Bias in training data, lack of common-sense reasoning, limited knowledge cut-off.

2 Literature Review:

This part of the study highlights on the reviews of the research scholar who have a thorough study in the field of AI tools i.e. ChatGPT and Google Bard AI and its comparison.

1) **Imtiaz Ahmed, Ayon Roy, Mashrafe Kajol, Uzma Hasan, Partha Protim Datta and Md. Rokonuzzaman Reza (July 2023)** has organized a broad examination that investigated and linked the capabilities and features of ChatGPT and Bard. On one hand, ChatGPT appears as the expert of language generation, ready to invent fluent text or turn visionary tales at your command. On the other hand, Bard, furnished with the skill to tap into the huge expanse of the internet, stands complete to offer us with real- time answers to the red-hot problems. Even they said that both chatbots will swap the way they work, rest, and play, inserting a trace of Artificial Intelligence into every part of our lives. Both ChatGPT and Bard have their twists and margins like two unusual but imperfect stars still filtering their ability. They upset rarely, making errors in public, but these mistakes serve as moving stones toward progress. The opinion and widespread practice they receive from users like us only power their progression, driving them towards larger altitudes of brilliance.

2) **Negin Yazdani Motlagh, Matin Khajavi, Abbas Sharifi, Mohsen Ahmadi (September 2023)** has analysed that ChatGPT is a progressive AI generative model that can construct text answer reflecting human communication. Comprehensively prepared on a huge dataset, it is skilled in literature program and troubleshooting current program faults. Since its official release in February 2023, there has been a prosperous form of writing that discovers new and innovative notions and potential appliances of this technology. This paper supports a comprehensive evaluation of systematic publications on ChatGPT, investigating into its history and exercising practices, and also contains a comparison between ChatGPT and other OpenAI text generation tools. At last, the paper highpoints the merits and demerits of ChatGPT and highlighted the areas for upcoming study to boost our awareness and technological skill. Inclusively, this paper provides as an important resource for

those intense on expanding their understanding of ChatGPT, whether they are in academia or industry.

3) **Shashikant Singh, Shubham Kumar & Pawan Singh Mehra (October 2023)** has explained Chatbots, their historical background, design, classes, and various other phases of Chat GPT & Google Bard AI and a short evaluation between Chat GPT and Google Bard AI. After their evaluation, they concluded that both the chatbots have great function in today's world, but along with this, they have short fall which requires to be overcome in forthcoming. As both chatbots are established on Artificial Intelligence and Machine Learning, it will carry on to learn and evolve over a period to push its

limitations. Some of the prospective of it are argued under: better accuracy and responses, integration with other technologies, and Addressing inaccuracy and Biases.

4) **Vagelis Plevris, George Papazafeiropoulos and Alejandro Jiménez Rios (October 2023)** has established the development made in the area of AI chatbots, with the three chatbots showcasing noteworthy improvement in analysing and in cracking

mathematics and logic difficulties. Still, there is a scope for development in terms of correctness, managing intricate problems, etc. Complicated arithmetical puzzles and those demands for innovative rational reasoning still encounters. Even some easy questions occurred to be difficult or tough for the chatbots. It is vital to recognise that these chatbots are mainly language models, not particularly for mathematics or logic.

Though they can prove some question-cracking capacity in these ranges, keen software system or focused simulations would be well fit for more dense or complex assignments in mathematics and logic.

5) **Muhammad Shumail Naveed (December 2023)** has evaluated that large language models have investigated a notable stream in recognition in latest times, attributed to their brilliant capacity to compete with human-like chat and create text. Google Bard and ChatGPT viewed as two important large language models, matter to evaluate and contrast from varied perceptions. This paper related the article invention abilities of Google Bard and ChatGPT, two large language models, by examining matter-wise equivalent papers on oncology. The conclusions exposed a noteworthy point of comparison between the papers produced by both models, advising that they were similarly taught on analogous datasets or mines of oncology-linked data. This

comparison can be credited to the probabilistic class of language models and the ability for overfitting during preparation.

6) **Xin Mu, Bryan Lim, Ishith Seth, Yi Xie, Jevan Cevik, Foti Sofiadellis, David J. Hunter-Smith, Warren M. Rozen (November 2023)** has proved that ChatGPT steadily offers further trustworthy, proof-built proven guidance than BARD and Bing

AI, marking better in all consistency metrics verified. However, their presentation was deprived as they are absence of wisdom and specificity, restraining their value in

modified scientific policymaking. Healthcare specialists are vital in understanding and contextualising LLM references, particularly for intricated situations needing

multidisciplinary effort. Forthcoming study should improve LLM implementation by

joining particular records and skilled experience, and possibly reconsidering differences in their systems to confirm traceability and reliability of AI-produced matter and

participating LLMs with human capability to progress disease management and backing patient-focused upkeep.

7) **Noppawit Aiumtrakul, Charat Thongprayoon, Supawadee Suppadungsuk, Pajaree Krisanapan, Jing Miao, Fawad Qureshi and Wisit Cheungpasitporn** has highlighted the initial impact of steady investigation loyalty within the difficult area of Nephrology. Though the prospective of AI tools for restructuring literature reviews is

marked, the recognised disagreements appeal for a thoughtful and thorough method in their application. The health communal promised to accuracy strains that similar slight error continues objectionable. As the potential for AI tools to reform medical

investigation and exercise persists, it is vital to improve and support these chatbots before

they can be positively incorporated as accepted tools.

8) **Kostis Giannakopoulos, Argyro kavadella, Anas Aaqel Salim, Vassilis Stamatopoulos, Eleftherios G Kaklamanos** analysed that 4 LLMs assessed here in relations of their reactions to clinically important queries executed rather well, with ChatGPT-4 revealing the statistically extensively most operation and Microsoft Bing Chat revealing the least. Regardless of the LLMs' position, the assessors recognised comparable pros, flaws, and limits, as well as infrequent mistakenness, faults, outdated or over common matter, and contrary reports. While the general usage of LLMs approaches an opening to support the application of EBD, the present restrictions advice that impulsive use could outcome in unfair or possibly hurtful health care
conclusion.

3 Objective:

➤ To study the concept of ChatGPT and Google Bard AI.
➤ To analysis the difference between the usage of ChatGPT and Google Bard AI.
➤ To study the limitations of ChatGPT and Google Bard AI.
➤ To understand the difficulties faced by the students while using this AI tools.

4 Scope of Research:

The aim of this research is to study the concept of ChatGPT and Google Bard AI, usage of ChatGPT and Google Bard AI. Also, the difficulties faced by students while using this AI tools and limitation of ChatGPT and Google Bard AI. The scope of this research is restricted to the student sector in Mumbai suburban.

5 Methodology:

In this part, Methodology used in this study is explained. The methodology includes sources of data collection, data analysis, sample size and sample units.

Sources of Collection: This study is based on both primary data and secondary data which is collected from Mumbai suburban area.
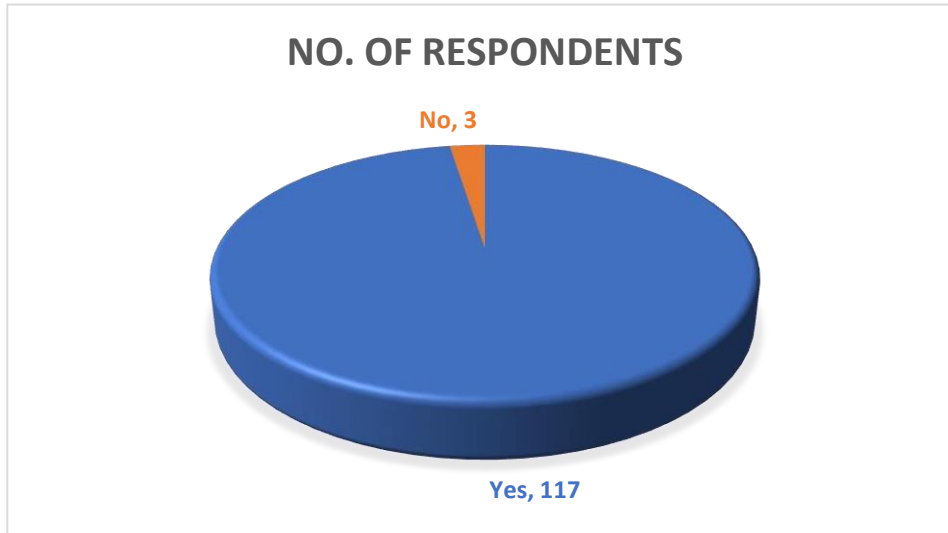
❖ **Primary Data:** The data collected under this method consists of first-hand information with the help of structured questionnaire. It is collected from approximately 120 users of AI tool i.e. ChatGPT and Google Bard AI.

Data Analysis and Interpretation of Primary Data:

1. Demographic Variable

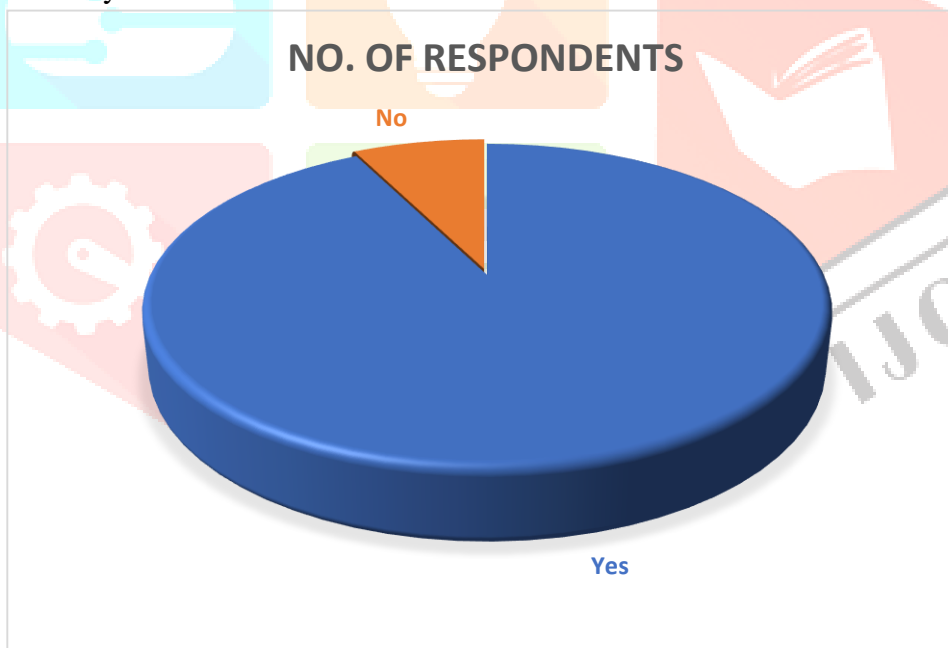| Demographic Variable	No of Respondents	Percentage
Age (Years)		
18 to 21 Years	100	83.4%
21 to 25 Years	16	13.3%
25 or above	4	3.3%
	120	100
Gender		
Female	67	55.8%
Male	53	44.2%
	120	100
Occupation		
Student	103	85.8%
Employed	14	11.7%
Unemployed	2	1.7%
Self employed	1	0.8%

120	100

2. Are you aware about Artificial intelligence i.e. AI?

Interpretation:
This question was asked with the purpose to know about the awareness of Artificial Intelligence. Out of 120 respondents, 117 respondents are aware about AI i.e. Artificial Intelligence whereas 3 respondents are not aware.
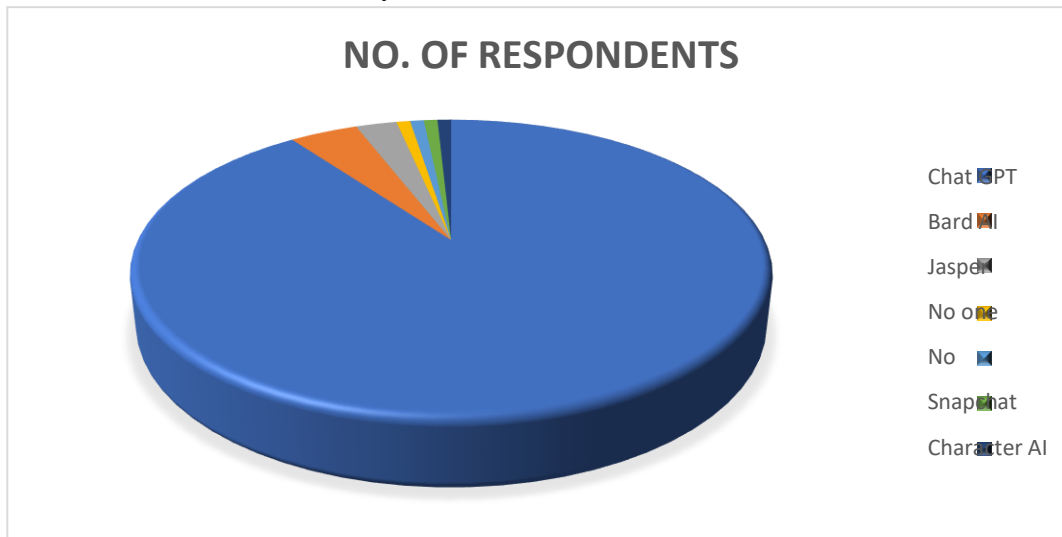
3. Is it easy to interact with this AI tool i.e. Chat GPT or Bard?

Interpretation:
This question was asked to analysis that is it easy for the user to interact with the AI tools i.e. Chat GPT or Bard. Out of 120 respondents, 111 respondents are finding easy to interact with AI tools i.e. Chat GPT or Bard.
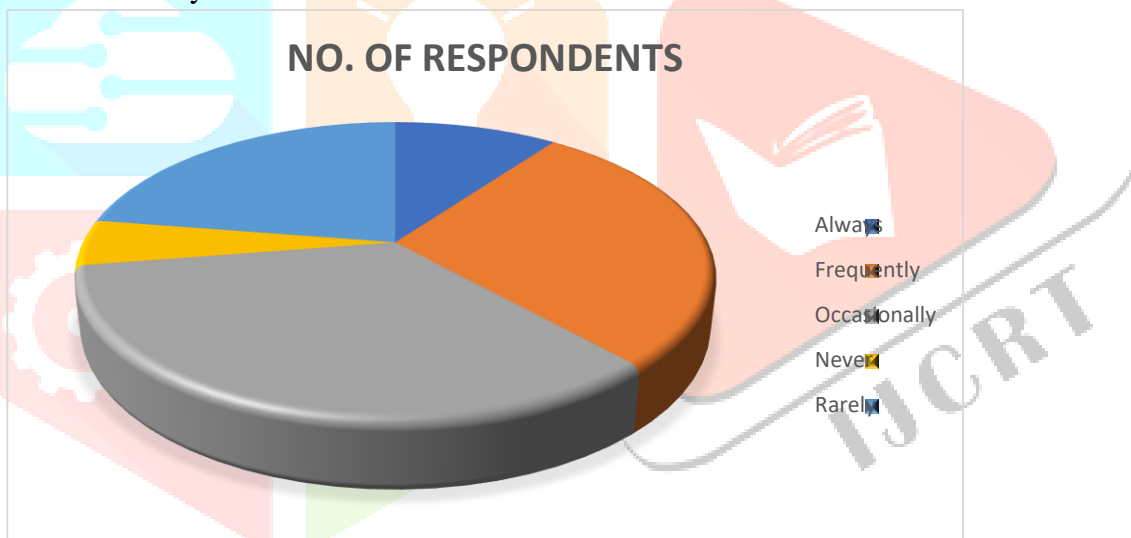
4. Till date, which AI tool have you used?

Interpretation:

This question was asked to evaluate that which AI are being used till date by the user. Out of 120 respondents, 108 respondents use Chat GPT commonly. Google Bard AI is being used 5 respondents and there are few other who use jasper, Character AI, etc.
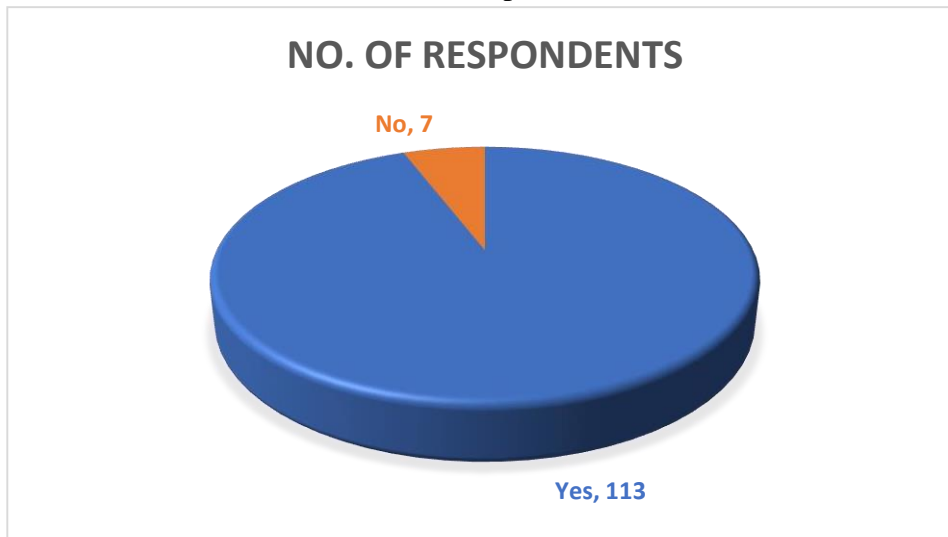
5. How often do you use Chat GPT?

Interpretation:

This question was asked with the purpose to know that how often the user uses Chat GPT. Out of 120 respondents, 12 respondents uses Chat GPT always whereas 34 respondents frequently and 41 respondents uses occasionally and other uses rarely andsome haven't use Chat GPT.
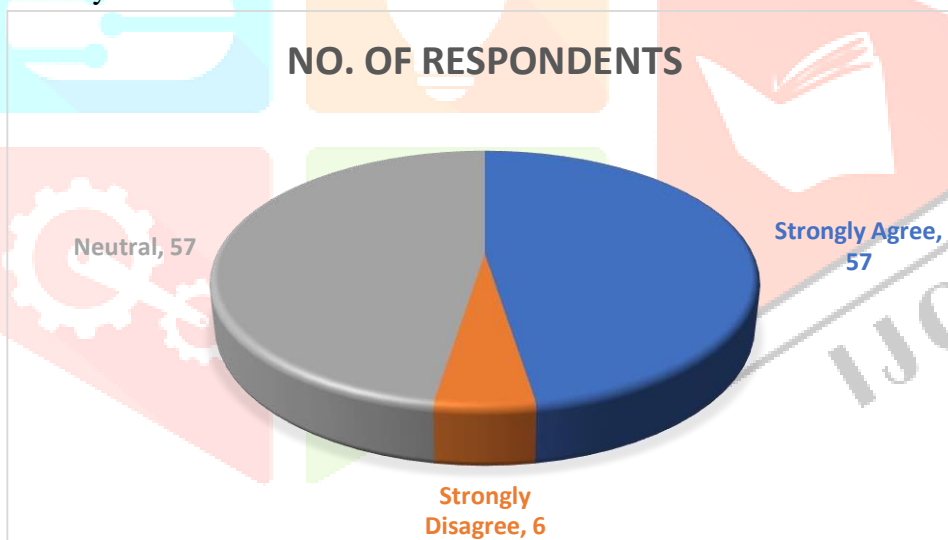
6. Is Chat GPT useful for educational Purpose?

Interpretation:

This question was asked to understand whether Chat GPT useful for educational purpose. Out of 120 respondents, 113 respondents views Chat GPT as a useful AI tool for educational purpose.
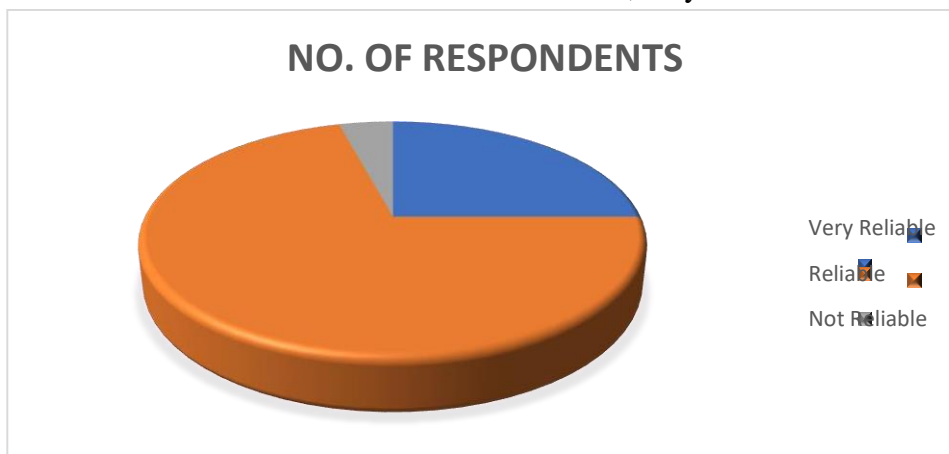
7. Does this AI tool i.e. Chat GPT or Bard AI helps in increasing your performance and efficiency in study?

Interpretation:

This question was asked to analysis that does AI tools i.e. Chat GPT and Bard helps in increasing the performance and efficiency of the user in study. Out of 120 respondents, 57 respondents' views AI tools as a helping tool in study for increasing their performance and efficiency whereas other 57 views AI tools as neutral and the

remaining other 6 respondents thinks that AI tool does not help to user for increasing their academic performance and learning efficiency.
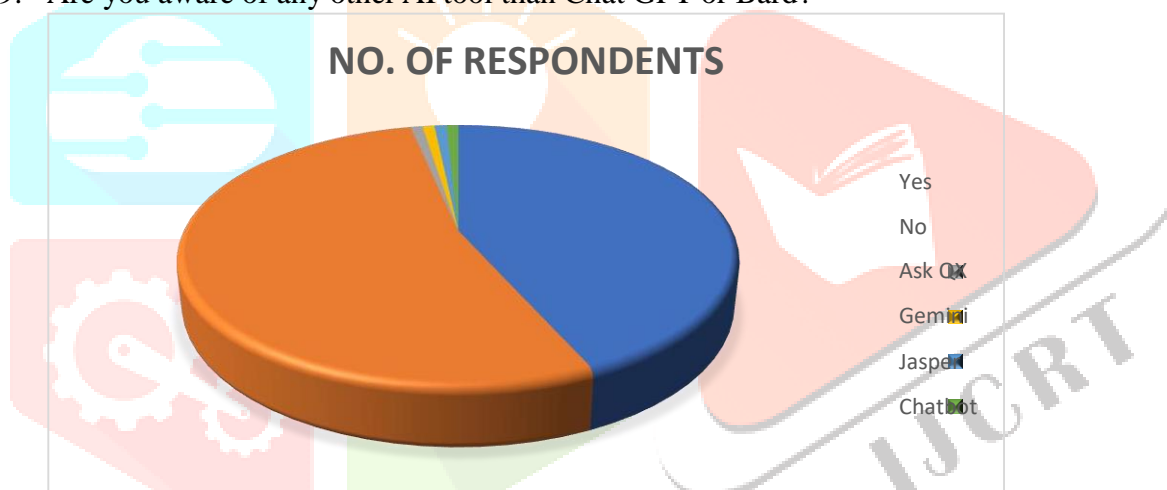
8. Information obtained from Chat GPT or Bard AI, do you think is it reliable and relevant?

Interpretation:

This question was queried with the purpose to know that the information obtained from Chat GPT or Bard AI is reliable and relevant or not. Out of 120 respondents, 30 respondents' opinions that information obtained are very reliable whereas 5 respondents outlooks information obtained as not reliable and relevant.
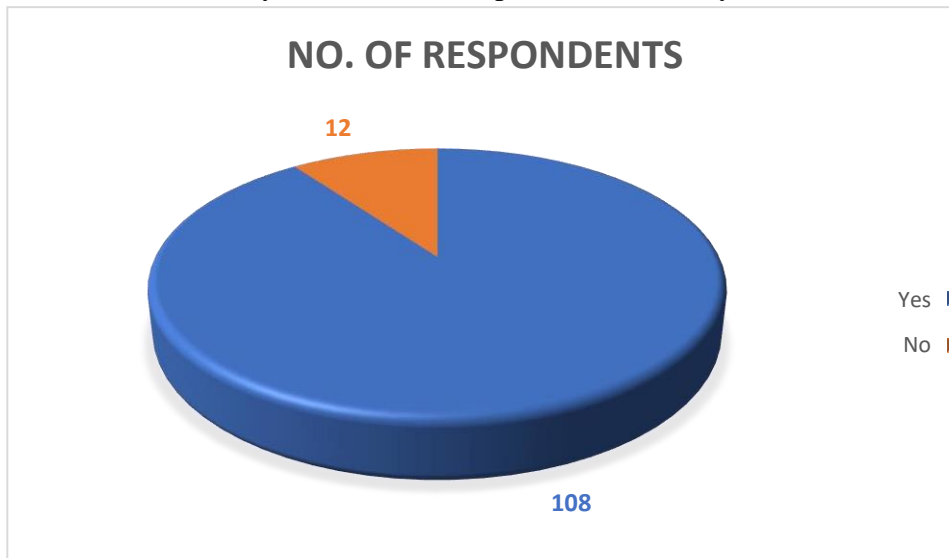
9. Are you aware of any other AI tool than Chat GPT or Bard?

Interpretation:

This question was enquired with the purpose to evaluate whether users are aware of any other AI tool than Chat GPT and Bard. Out of 120 respondents, 56 respondents' are aware of other AI tools out of this few uses Ask QX, Gemini, Jasper and Chatbots whereas others are not aware about other AI tools.
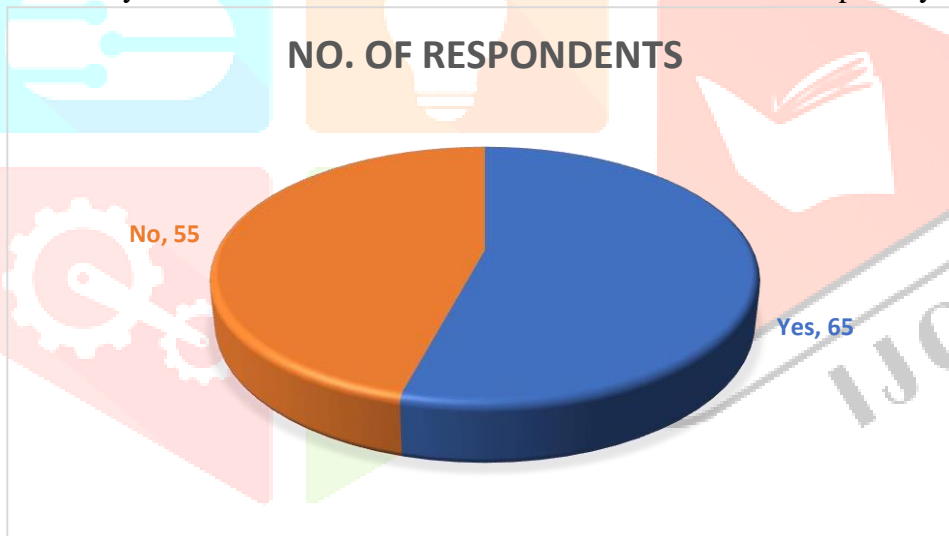
10. Which AI tool satisfy the user with respect to availability of data and resources?

Interpretation:

This question was queried with the purpose to know that which AI tool satisfy the user with respect to availability of data, knowledge and resources which provided to the user. Out of 120 respondents, 108 respondents' are satisfied with the AI tools with subject to availability of data, knowledge and recourses whereas 12 respondents are satisfied.
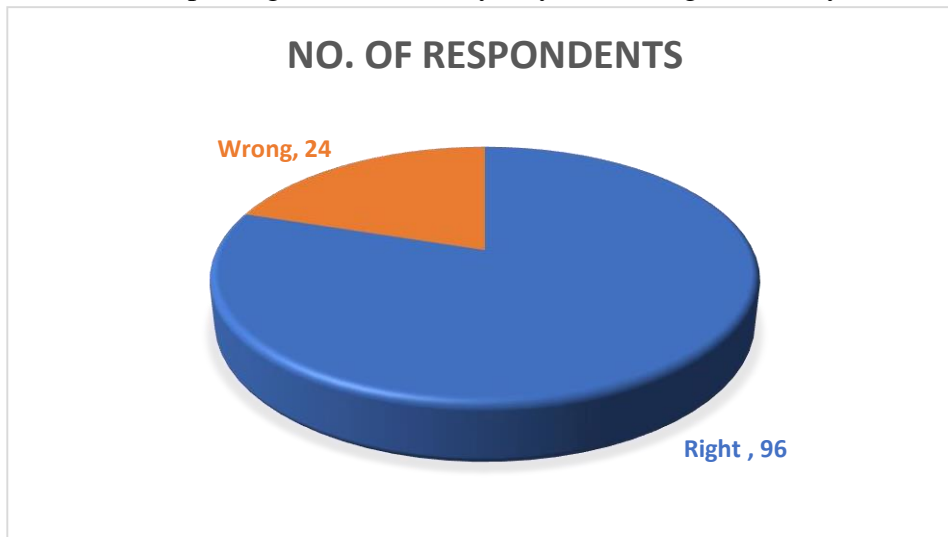
11. What do you think does Chat GPT or Bard AI affects the student privacy?

Interpretation:

This question was interrogated with the reason to identify does AI tools i.e. Chat GPT or Bard AI affects the students privacy. Out of 120 respondents, 65 respondents views
that it do affects the students privacy whereas 55 respondents do not think that it affects.

12. AI tools are replacing the traditionally way to learning, what do you think is it?

Interpretation:

This question was raised with the reason to evaluate that is it right or wrong that AI tools are replacing the traditionally way of learning. Out of 120 respondents, 96 respondents thinks that it is right whereas 24 respondents thinks that it is wrong.

❖ **Secondary Data:** Under this method, the data is collected from books, journals, research paper and websites, etc.

During this research, the comparison observed by myself and other research scholar between Chat GPT and Google Bard AI which is given below:

Parameters	Chat GPT	Google Bard AI
Creators	OpenAI	Google
Language model	OpenAI's GPT-3.5	Pathways Language Model (PaLM 2)
Data Sources	Trained by massive dataset of text, including common crawl, Wikipedia, books, articles, documents, and content scraped from open internet whereas sources for free Chat GPT-3.5 model end in 2021.	Trained on Infini set, a data set including common crawl, Wikipedia, documents, and conversation and dialogues from web; Bard can also perform web search,
Data stored	Only until 2021	Latest Data
Access	Unlimited	Limited
Parameter and Vocabulary	175 billion parameters and a vast vocabulary.	1.37 billion parameters and a relatively narrow vocabulary.
Limitations	Biases of data	Biases of internet
Sources of data	Data feed	Internet
Information provided	Relatively less detailed	More Detailed
Checking plagiarism	Can check	Lacks this feature
Cost	$20/month (Plus version)	Free of cost

6 Findings:

1. Demographic Factor:

Based on this study, demographic factors like age, and gender and occupation influences people indirectly for decision making.

2. Concept & Awareness:

Based on this study, the concept of AI has become easier to understand as how it works, what are the merits and demerits of AI, etc. AI is the need of upcoming future as the fifth generation of computer is based on AI. It also made the concepts of AI tools i.e. Chat GPT and Google Bard AI to understand it easily as how they work, way of solving the problems or question, how it interacts with students, even their pros and cons, their current status, etc. During the research work, it is found that 97.5% of the students are aware about AI tools.

7 Limitations of the study:

The study has been conducted by primary and secondary data. The study also has time constraint due to which only 120 user responses were collected. Even the data is collected only from Mumbai suburban area which restricted the research work in terms of area. The research work is done on selected AI tools i.e. Chat GPT and Google Bard AI.

8 Suggestions & Recommendations:

Both AI tools i.e. Chat GPT and Bard are based on AI so, it would show progress and evolve from time to time. There are some upcoming of it which are discussed below:

1. Enhance knowledge: Chat GPT & Bard will enhance its knowledge from time to time which would help to provide better and accurate responses.
2. Integration with other field: Chat GPT & Bard is expected to integrate in various fields as it would provide vast progress to the developing world.
3. Concentrating on faults and biases: Chat GPT and Bard is expected to look after their faults and biases. So, there is need to provided training and enhance data from time to time.

9 Conclusion:

To conclude the comparative study between ChatGPT and Google Bard AI from a student's perspective, several key points can be highlighted:

ChatGPT is more accessible and user-friendly for students due to its simple interface and natural language processing capabilities. Google Bard AI, on the other hand, may require more technical knowledge and training to use effectively. ChatGPT excels in providing quick and relevant information to students, making it a valuable tool for studying and research. Google Bard AI offers a more interactive learning experience with its storytelling capabilities, which can be engaging but may not always provide direct answers to academic queries.ChatGPT's responses are generally accurate and reliable, especially for factual information and academic content. Google Bard AI's storytelling ability adds a creative element but may not always provide the most accurate or comprehensive information for academic purposes.ChatGPT has access to a wide range of information sources, which allows it to provide detailed and well-researched answers to a variety of questions. Google Bard AI's knowledge base may be more limited, particularly in specialized or academic fields. Both ChatGPT and Google Bard AI have the potential to further enhance student learning and research capabilities. Continued development and integration of AI technologies in education could lead to more personalized and effective learning experiences for students.

In conclusion, ChatGPT is currently more suitable for students due to its ease of use, accuracy, and reliability in providing academic information. However, Google Bard AI's storytelling capabilities offer a unique and potentially valuable learning experience that could be further developed to enhance student

engagement and learning outcomes.

Reference:

Imtiaz Ahmed, Ayon Roy, Mashrafe Kajol, Uzma Hasan, Partha Protim Datta and Md. Rokonuzzaman Reza (July 2023)- ChatGPT vs. Bard: A Comparative Study | DOI: 10.36227/techrxiv.23536290

Negin Yazdani Motlagh, Matin Khajavi, Abbas Sharifi, Mohsen Ahmadi (September 2023)- The Impact of Artificial Intelligence on the Evolution of Digital Education: A Comparative Study of OpenAI Text Generation Tools including ChatGPT, Bing Chat, Bard, and Ernie

Shashikant Singh, Shubham Kumar & Pawan Singh Mehra (October 2023)- Chat GPT & Google Bard AI: A Review | DOI:10.1109/ICICAT57735.2023.10263706

Vagelis Plevris, George Papazafeiropoulos and Alejandro Jiménez Rios (October 2023)- Chatbots Put to the Test in Math and Logic Problems: A Comparison and Assessment of ChatGPT-3.5, ChatGPT-4, and Google Bard | DOI:10.48550/arXiv.2305.18618

Muhammad Shumail Naveed (December 2023)- Quantifying Similarities: Oncology Documents from Google Bard and ChatGPT | International journal of innovations in science & technology | Vol. 5 Issue. 4 | PP 773-786 | Dec 2023

Xin Mu, Bryan Lim, Ishith Seth, Yi Xie, Jevan Cevik, Foti Sofiadellis, David J. Hunter-Smith, Warren M. Rozen (November 2023)- Comparison of large language models in management advice for melanoma: Google's AI BARD, BingAI and ChatGPT | Skin Health and Disease | DOI: 10.1002/ski2.313

Noppawit Aiumtrakul, Charat Thongprayoon, Supawadee Suppadungsuk, Pajaree Krisanapan, Jing Miao, Fawad Qureshi and Wisit Cheungpasitporn (September 2023)- Navigating the Landscape of Personalized Medicine: The Relevance of ChatGPT, BingChat, and Bard AI in Nephrology Literature Searches | Journal of Personalized Medicine | Vol. 13(10):1457 | DOI:10.3390/jpm13101457

Kostis Giannakopoulos, Argyro kavadella, Anas Aaqel Salim, Vassilis Stamatopoulos, Eleftherios G Kaklamanos (August 2023)- Evaluation of the Performance of Generative AI Large Language Models ChatGPT, Google Bard, and Microsoft Bing Chat in Supporting Evidence-Based Dentistry: Comparative Mixed Methods Study | Journal of medical internet research | Vol. 13 p. 1 | DOI:10.2196/preprints.51580