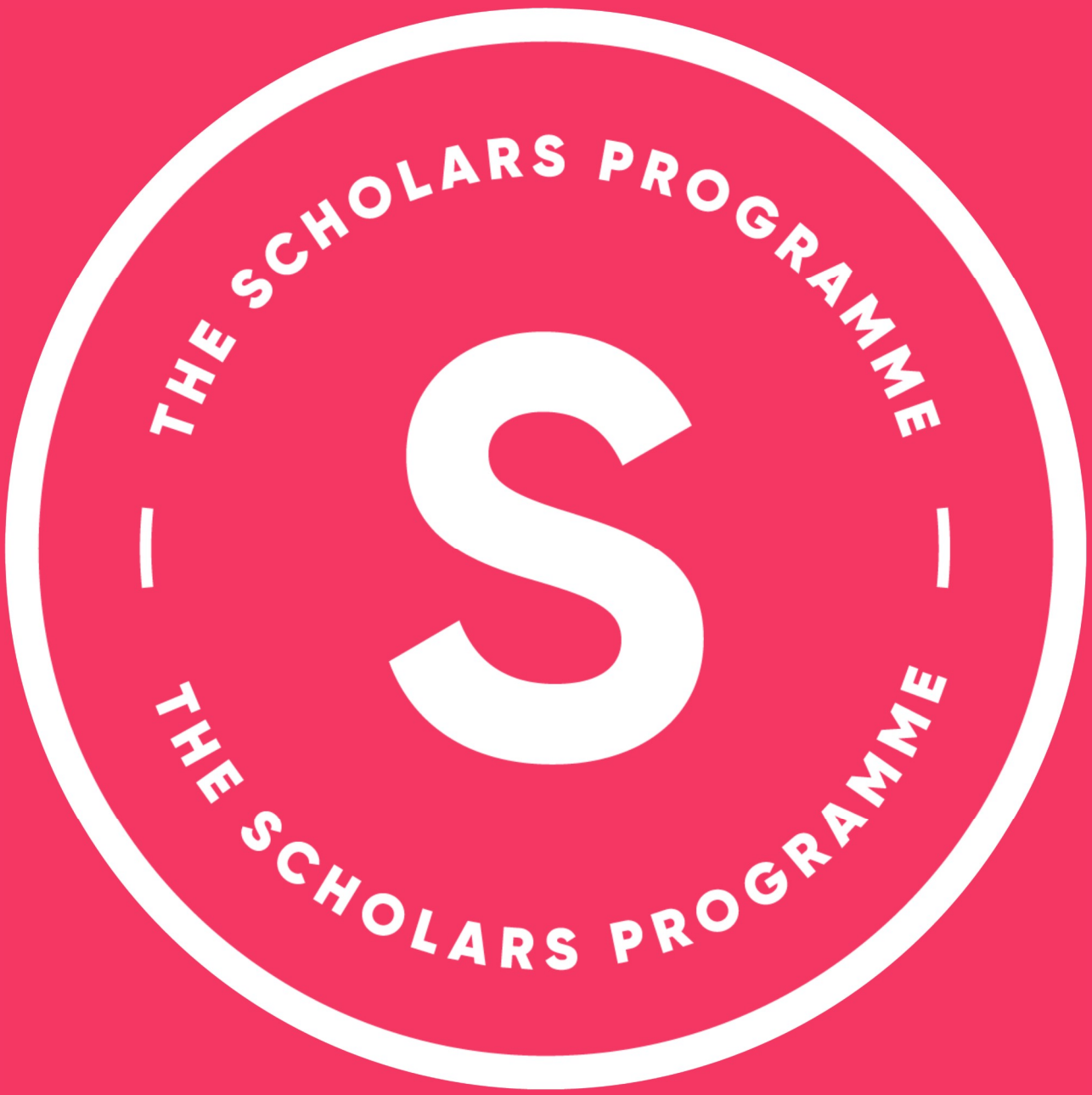
Standardisation Booklet



Key Stage 4

Social Sciences Programmes

Year 2024-2025

BROUGHT TO YOU BY THE BRILLIANT CLUB

Contents

Contents 2

Guidance for Tutors 3

Mark Scheme Table 3

Candidate A: 5

Candidate B: 9

Candidate C: 15

Guidance for Tutors

Dear Tutors,

At The Brilliant Club, we are committed to ensuring that all students who take part in our programmes are assessed in a fair way. Because of that, it is important that we ensure that all tutors who are marking and providing feedback on students' baseline and final assignments do so in a standardised way, in accordance with our university style mark schemes.

This booklet has been designed to be used as part of our PhD tutor training – Marking and Feedback and is to be used to complete the final part of the session.

The resources included in this booklet focus on a Key Stage 4 course from a discipline within the Social Sciences area of study. They are real assignments from real students who took part in The Scholars Programme last year. If you would find it helpful to review the course materials associated with this course, you can find them linked in the module introduction.

Using the mark scheme provided, please follow our marking procedures, awarding the given assignments a mark out of 100 for each element of the mark scheme, Subject Knowledge, Critical Thinking and Written Communication, and then average those scores to achieve the final mark out of 100. When you have finished marking all of the assignments, please complete and submit the training module survey **which will ask you input the marks for each strand, the final mark and the grade awarded.**

Once you have entered your marks, you will find out if your marking is in line with our expectations. You will then be able to begin marking your baseline and final assignments as soon as you receive them.

I hope that you find this standardisation process a useful one,

With best wishes,

Angie Baker
Head of Teaching and Learning

Mark Scheme Table

	Subject Knowledge	Critical Thinking	Written Communication
1st	The essay shows a breadth of knowledge and understanding of the key concepts and issues, through engaging with and interpreting a wide range of relevant sources. Knowledge is used to build and support highly effective arguments.	Analyses key ideas, information, and arguments. Interprets meaning and makes connections. Identifies and critically evaluates key arguments and statements, deciding on their credibility, strength and relative significance, drawing convincing conclusions.	The essay has a clear and engaging structure, taking the reader on a journey from the introduction to the conclusion. The writing style is appropriate; key terms are used with fluency. There are no, or very few, errors in spelling or grammar. Referencing is used consistently and matches the style taught in the course.
2:1	The essay shows an understanding of key concepts and issues, drawing on a range of relevant sources Knowledge is used to build and support effective arguments	Analyses key ideas, information and arguments. Identifies relevant arguments and statements, deciding on their credibility and strength, drawing reasonable conclusions. Shows some understanding of the relative importance of arguments.	The essay has a clear structure and the arguments are easy to follow. The introduction outlines the essay effectively and the conclusion summarises the arguments. The writing style is appropriate; key terms are used correctly. There are few errors in spelling or grammar. Referencing is mostly consistent and matches the style taught in the course.
2:2	The essay shows an understanding of key concepts and issues, with no major misconceptions. Beginning to apply this knowledge to build and support arguments.	Begins to analyse ideas, information and arguments. Identifies some arguments and statements and attempts to evaluate their quality. Not yet showing understanding of the relative strengths and weaknesses of arguments.	The essay structure could be made clearer to better guide the reader through the arguments. The writing style can sometimes be informal. Occasionally key terms are not used when it would be appropriate to do so. There are some errors in spelling or grammar, but they do not get in the way of communicating the content. There is some consistency to the referencing.
3rd	Shows a developing understanding of key concepts and issues, with some misconceptions. Not yet applying this knowledge to build and support arguments.	Begins to analyse ideas and information. Describes statements and arguments while not yet evaluating them.	The grammar, spelling, style, and structure of the work need improving in order to communicate ideas to the reader. The essay has no or a limited introduction and conclusion. Key terms and references are not always used correctly.

Candidate A:

Task:

Critically analyse the role of digital literacy in combatting online bias and discrimination (2000 words).

Candidate A's Response

Digital literacy is the ability to locate, create, evaluate, use, and share information from various online sources. Being digitally literate is necessary for anyone attempting to find information online effectively and safely [1]. This essay will critically analyse the role of digital literacy by evaluating issues concerning generative AI and its ethics, using Wikipedia as a credible source, personalised search results, filter bubbles, and confirmation bias. These sources can only be used effectively if used hand in hand with digital literacy.

A search engine is a tool designed to help find information online, but there may be a few issues. If both you and another person search the same thing on a browser (Google, Bing, etc.), you will find that the results may vary. This is due to something called personalisation. While browsing, search engines tend to collect data to evaluate and create a pattern. These patterns are tailored to fit your account and adjust according to your searches.
This may be beneficial, as whatever information is needed can be found more easily. The problem this insinuates is that you may encounter unintentional bias in the search results. So, although personalised search is useful, it may be harmful as unconscious bias may occur.

Wikipedia is a free online encyclopedia that was founded in 2001 by Jimmy Wales and Larry Sanger. Its purpose is to be a website that can educate on (nearly) all topics known to man [2], often being used as a search engine for all sorts of information. It can be edited by anyone with internet access, though misinformation and vandalism get flagged and are checked over by bots.

Although useful, Wikipedia's reliability is a source of debate. A few advantages are the cost, as Wikipedia is free to use for all, and the fact that it can be accessed anywhere. These reasons make it a much more appealing website due to its ease of use.

However, the reliability may be questioned, as the information recorded on Wikipedia may be inaccurate but not necessarily wrong. The inaccuracies may include silly vandalism or the replacement of certain words [3], but that does not mean the whole of Wikipedia is unreliable.

Artificial intelligence (AI) is an evolving technology that tries to simulate human intelligence using machines [4]. More developed AI software has human-like abilities such as learning to perceive, interact, reason, problem-solving, and, in some instances, even creativity [5].

An example of a commonly used AI is ChatGPT. ChatGPT is a conversational model that was created by the company OpenAI, which offers various AI services [6]. ChatGPT is open to use by the public for free and can assist you during tasks with a humanlike approach, making it a simple and easy-to-use approach [7].

Another well-known AI program is Gemini (previously known as Bard). It is a communicative AI that was created by the company Google. It works best in terms of text, working with images, audio, videos, and code [8]. These AI programs are two of the most used in today's day and age, but they are not as reliable in certain situations.
AI can be beneficial by completing repetitive tasks, reducing human error, and efficiently processing copious amounts of data. Basic tasks like these tend to be tedious and lengthy when done by humans but can be completed efficiently by AI.

However, AI can be costly when being developed, and having a specialised type specific to certain duties may be difficult to attain. Most AI are also only capable of expressing what they are taught, being unable to think creatively. If it is used too often or efficiently, humans may become lazier and neglect work, leading to potential unemployment.

Due to this, people may corrupt their ability to think by being so reliant on a computer's thoughts. If AI is continuously misused, the unemployment rates that are affected by it may skyrocket, but that might not be all.

Employers could use AI to analyse job descriptions and pick out skills, qualifications, or experience that are ideal for a certain role [9]. By analysing what is needed, AI can be utilised in these situations by effectively going through job applications, helping to choose the most suitable candidate for a job.
When it comes to ethics, the use of AI tends to spark heated conversations. Matters such as discrimination being found in AI results due to the information in training data being biased [10] or issues with transparency concerning what is done with all the data collected and how it is kept private can spark debates on the safety and reliability of AI.

Bias in training data is often caused by the individuals who train the AI, leading to unintended bias [11] or over-/under-representation [12]. An example of this is facial recognition. Data for a facial recognition algorithm that over-represents those of a specific ethnic group may create errors when attempting facial recognition for other ethnicities [13].

AI may also only be used in the sense of a filter bubble. In this situation, the user may only use the information that supports their existing beliefs, further enhancing an unreliable point.

Any of these tools (AI, Wikipedia, and search engines) are useful but must be used carefully. Digital literacy is important, so all media consumed is reasonable and reliable.

I also believe the concept of Wikipedia may undermine its credibility. It can be used as a credible source due to the information being uploaded undergoing fact-checking processes to ensure all recorded knowledge is as accurate as can be, though it might still be risky as it could be undergoing editing or just be incorrect. AI can be useful when used for anything too, but to ensure the work is of the highest quality, it is best to put in extra human input and research just to ensure all the information is factual.

In conclusion, digital literacy is necessary when attempting to comprehend the complex ideas associated with AI, Wikipedia, and search engines to combat the harmful ideas surrounding these topics, though they can be debunked or "fixed" with just a little more care within the retrieval processes of finding information.

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Candidate B:

Task:

Critically analyse the role of digital literacy in combatting online bias and discrimination (2000 words).

Candidate B's Response

Digital literacy is the 'ability to understand and to use information in multiple formats from a wide range of sources.' Defined by Paul Gilster, in his book Digital Literacy (1997), where the term was first used. [1] This means that to become digitally literate, a user must be able to evaluate and interpret a source; finding and selecting the most reliable information, understanding the context of the webpage, and potential biases that factor into the data. In this essay, I will critically analyze the subject of search engines and how they work, as well as ethical debates such as the use of Wikipedia and AI in education.

Search engine bias can be defined as the prioritization of certain sources over others, when presenting results to a user. It is a continuing concern within the field of digital literacy, but when understood, the issue of search engine bias can aid users to become digitally literate. Search engines come in many forms, some built into websites, such as BBC News, to allow you to look for specific articles, while others are used for browsers (desktop applications only used for searching the web). These search engines use pieces of data that are collected every time you type a question to build an online identity; a digital footprint. Search engines use this to personalise your results to what it thinks will be relevant to you. This 'relevancy' depends on different factors, such as the area in which you live in – tracked by our phones – and what people of that neighbourhood often look for.

There are several concerns, one of which is that the user will never be exposed to information that they may potentially find interesting. For example, news articles about the effects of climate change on the other side of the globe, which the search engine would never have recommended them otherwise, due to its programming telling them that users are only likely to read articles where the events are near to them. While this may be true in most cases, the withholding of knowledge encourages ignorance. Ignorance has been encouraged by the research bias, integrated into these search engines. Research bias can be defined as the source priorities of every webpage on the internet, allowing 'superior' sources to be placed higher in your results, as shown by *Yale Journal* (Goldman, 2006).

"Like other media companies, search engines make editorial choices designed to satisfy their audience. These choices systematically favour certain types of content over others" [2].

As well as this, search engines perform hundreds of thousands of 'searches' a day and 'with this broad reach, search engines have significant power to shape searcher behaviour and perceptions.' [2] This selective exposure of data impacts huge portions of the population, who have a device and internet access.

Understanding Wikipedia is crucial in becoming digitally literate, as it is commonly used by students as a source to reference. However, credibility has always been questioned. The collaborative nature of this digital encyclopedia, which contains millions of webpages, has been the subject of debate ever since its launch in January 2001. Often, schools will instruct students not to use Wikipedia as a source of information, due to the concept of unchecked editors, as considered by The Conversation, 'Many teachers point out that anyone can edit a Wikipedia page, not just experts on the subject.' [3] This can lead to vandalism – when inappropriate language or information is added to a Wikipedia webpage. However, vandalism is rectified quickly, noticed by bots that tirelessly scour updating webpages, working every second to revert pages to their original copy. This is backed by a study IBM led, which states that the bots act 'extremely quickly—so quickly that most users will never see its effects.' [4]. In fact, these computer programs are so efficient that human administrators are only needed when the bots are unsure whether to remove or leave information recently added, so that only the complex decision making is left for the human editors, as explained by Wikipedia itself, 'live human administration is necessary to ensure that the editing of project pages, whether administration pages or content pages, happens peacefully'. [5]

As opposed to the aforementioned 'unchecked editors' attitude, in this extract, Wikipedia suggests that despite easy editing access, where anyone with a device and internet access can create an editor account, its administrators make sure that modifying is appropriate. However, as this is referenced from the website in question, the validity of the extract can be argued. It is highly probable that there is a vandalised webpage on Wikipedia that has not been detected by the bots, but due to strategies used, they will be found. An example of such strategies being in the form of a 'recent changes patrol, where a page lists all the current modifications' [6].
The combination of search engine bias, and other webpages such as Wikipedia's open editing model, creates an effect called the 'filter bubble' effect. The filter bubble effect – also known as an echo chamber – occurs through sections of the internet which tailor themselves to an individual, such as a search engine, or social media. This personalisation reflects previous search history, by way of recommended searches, back to the user, meaning that they only see content that has been specifically chosen for them, knowing that they have already viewed similar pages before. In some cases, this occurs so often, that confirmation bias emerges, and in the worst scenario, an individual may be inadvertently persuaded into extreme political views.

Confirmation bias also plays a significant role in combatting online bias through becoming digitally literate. The term 'confirmation bias' is used to describe the unconscious favour of information which we already agree with. This is further explained by Scientific Reports which stated that 'Online users tend to select claims that adhere to their system of beliefs and to ignore dissenting information.' [7]. If we, as users, recognise this psychological phenomenon, critically analysing data will become easier, when conducting research. As well as this, confirmation bias is a growing concern on social media,

where group polarisation leads to debates between users, and a general spread of misinformation. A recent example is the American elections, where rapid societal changes were observed by commentators during Donald Trump's election campaign due to the swift spread of falsehoods.

The British Psychological Society conducted a study to analyse 'twelve different information filtering scenarios' [8] to discover how severe the filter bubble effect is. They found that:
'even without any social or technological filters, echo chambers emerge as a consequence of cognitive mechanisms, such as confirmation bias, under conditions of central information propagation through channels reaching a large part of the population.' [8]

An example of such 'central information propagation' are media outlets. Often, journalists will publish the most exciting version of an event, to entertain the public and therefore sell more copies, or the most politically correct version in the eyes of that particular outlet. This shows users must become digitally literate – to recognise and understand potential bias.

Generative artificial intelligence (AI) is also a cause for concern within the field of digital bias. Artificial intelligence is an intangible, cognitive learning computer application, further explained by the Aayushi Journal; 'the branch of computer science by which we can develop intelligent machines who can behave like humans' [9]. The first computer capable of machine learning was developed by the mathematician Alan Turing and named The Bombe or 'enigma' machine. It was a cypher, less advanced than artificial intelligence, capable of decrypting coded messages, and used in the Second World War. Thanks to this machine, Turing had in essence, 'laid the foundations for Computer Science, Automated Decryption, Systems Biology and the Turing Test' [10]. Furthermore, 'trends and developments within AI over the last 50 years were foreseen in this foundational paper.' [10] and programmers still use the plans laid out by Turing, today, in their models for artificial intelligence. Turing's theories are still relevant, despite being half a century old.
There are many applications of artificial intelligence, which have become quite common – and essential – in our everyday lives. These include: transport (where AI works out the time that a journey will most likely take), social media (which recommends posts personalised 'for you' using AI) and language translators.

Search engines use machine learning, and the recent development of learning algorithms, for services such as Google, allow them to be so efficient. The International Journal of Computer Applications states that:
'Every time a web search engine like Google or Bing is used to search the internet, one of the reasons that it works so well is because a learning algorithm, one implemented by Google or Microsoft, has learned how to rank web pages' [11].

Thanks to AI's learning algorithm, users can efficiently sort through results. This facilitates the discovery of information, relevant to the key words the user has chosen.

There are other uses for machine learning, such as in the study of DNA and the human genome. For example, we can use a clustering algorithm to group individuals together, using large groups of data. The 'algorithm automatically finds structure in the data' [11] and may therefore help scientists or doctors to discover patterns between patients based on their DNA. In the future, this ground-breaking discovery will allow them to identify high risk groups in the population before they have fallen ill and save huge numbers of lives on both a national and global scale.

However, there are some concerns with using artificial intelligence, such as students writing essays or answering homework questions with ChatGPT; a text generating AI, also known as a 'chatbot'. ChatGPT produces responses to user input in the format of a text message, its readability and fluidity allowing for it to pass as human conversation.
'To train ChatGPT, a large corpus of text data is fed into the model, allowing it to learn patterns and relationships between words, phrases, and sentences. The training process is iterative, and the model continues to improve as it is exposed to more data' [12]

The training for ChatGPT raises issues with bias, as the companies that design such chatbots can be selective with the data that the artificial intelligence is exposed to. Therefore, responses to users may not always be fair, or representative, of all opinions. As stated by the International Journal of Innovative Science and Research Technology: 'this can result in ChatGPT's responses perpetuating stereotypes or discrimination within the training data.' [12]

As well as this, there are concerns with accountability and transparency, as artificial intelligence 'hallucinates' information on a subject which it has not been taught. This means that it will generate, potentially inaccurate, data to complete any gaps in an answer to user input, misleading users. This is particularly a problem in AI in education, as students may want to use a chatbot to mark their work or expand their knowledge on the topic studied. However, if generative AI was a subject of debate in class, students would be aware of the disadvantages, and less likely to use it as a tool to falsely raise grades.

In this new age of digital bias and discrimination, digital literacy is becoming increasingly relevant. For example, there is no definite way to predict how ground-breaking the development of artificial intelligence is, or how it may affect us, as a generation, in the years that come. This being said, there are undeniable advantages, such as the use of chatbots to further facilitate research, or machine-learning in the medical industry. However, it is crucial for users to be knowledgeable – digitally literate –

about the training data, used by artificial intelligence, particularly by these chatbots. There is no legislation in the United Kingdom (UK) for AI as yet, which means that businesses responsible for the programming of various AI applications can be selective with the training data. To prevent the concern of digital bias and discrimination, it is essential that a solution is presented to minimise bias in such data, and therefore applications, which otherwise may become integrated into our everyday society.

Being digitally literate is also vital as users become increasingly reliant on search engines to find accurate information quickly. This perhaps allows for gaps in their knowledge when conducting research, based on what the search engine has deemed irrelevant. Therefore, the ability to find and select the most reliable information will allow users to build an unbiased perspective on the subject they are exploring. The same is true with the use of Wikipedia.

Digital bias and discrimination is a field that continually grows in its complexity, which I believe we, as users, can combat by educating ourselves and others, in an effort to become digitally literate. This could be achieved through a more current curriculum, so students can carry out efficient and balanced research, both in schools and potentially at university. By developing digital literacy in students – and the general population where possible – ChatGPT would be less of a concern in the coming years, due to an understanding of the bias which can be added by the businesses that operate these chatbots and search engines.

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Candidate C:

Task:

Critically analyse the role of digital literacy in combatting online bias and discrimination (2000 words).

Candidate C's Response

"Digital literacy is about being able to find, sort, evaluate, manage and create information in digital forms."[1] This means that Digital Literacy is vital to navigating and understanding the online domain. In 2023, the National Skills Coalition and the Federal Reserve Bank of Atlanta analysed job advertisements in the U.S. and found that 92% required "definitely digital" or "likely digital" skills.[2] This highlights the importance of digital literacy in our modernised, internet-reliant society. A 2012 study found that "16% of all U.S adults were not digitally literate",[3] though this may be a small percentage, that is over 40 million adults, when this statistic is applied to the 2020 U.S census,[4] who lack the literacy required to traverse the internet safely and efficiently. This essay will briefly delve into the role of digital literacy in everyday life, and why it is so important, by looking at search engine personalisation, Artificial Intelligence (AI), and Wikipedia.

Aside from ease of use and job prospects, digital literacy plays an important role in academic publishing and the distribution of information. The ability to spot and avoid bias or false information is crucial to any individual choosing to research via the Internet. Bias is extremely difficult to avoid thanks to modern search engines, built-in personalisation controls what information and sources are distributed to users based on many factors such as location and past searches. Scholars searching for multiple sides of an argument may fall victim to an unintentional filter bubble effect caused by personalisation.[5] This is caused by search engines pushing forward previously searched opinions and beliefs and potentially shielding users from the spectrum of ideas they are looking for.

With the exponential growth of advances in technology, come new and exciting innovations. One such example is the quick escalation of generative AI that began in 2020. The most famous example is ChatGPT released by OpenAI which amassed a million users in just 5 days.[6] intending to interact with users on a conversational level,[7] it brought about issues regarding the "hallucination" of incorrect information.[8] OpenAI themselves wrote, "ChatGPT sometimes writes plausible-sounding but incorrect or nonsensical answers."[9] Thanks to its conversational nature, ChatGPT was and still is prone to leaving out the sources it uses. Digitally literate individuals should be aware of this fact. A real-world example of discrimination and bias in generative AI was the release of Google's model, Gemini. It received backlash for creating offensive and historically inaccurate images.[10]

Dubbed "the largest and most widely used encyclopedia in history"[11], Wikipedia is infamous for its ability to be edited by anyone, leading to the potential for bias or misinformation. One example of

how people who use Wikipedia should be wary is the case of Alan MacMasters. In 2012, following a university lecture on Wikipedia as a source, Alan and his friends created a hoax highlighting2 Alan as the inventor of the toaster. Many articles since promoted Alan as the inventor of the toaster, he was even named in a U.S. Museum, further solidifying this falsehood.[12] Years later, it was revealed to be a fabrication, this demonstrates how quickly misinformation spreads under the correct circumstances.

Since digital literacy is necessary in everyday life, how might one acquire said skill? Cambridge University produced a conclusive guide on being digitally literate in 2022 for teachers and educational managers, highlighting its importance and how to develop it.[13] In conclusion, digital literacy is crucial to understanding and combatting bias and care should always be taken with validating sources and watching out for bias.

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