




# Chapter 4

## Impact of AI on Undergraduate Learning

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Coming from somebody who was in matric last year and has recently been launched into a world of hard work, continuous study, and emerging technology, I must admit that AI is a fascinating technological tool that has captivated the minds of many. It can be used for just about anything, especially helping the upcoming generations of professionals – for good or for bad. This essay aims to discuss various effects that AI has had on modern practices, with a focus on how it has affected the study of undergraduates.

### What AI Is

According to the European Parliament (2023), artificial intelligence, more commonly known as AI, is a complex web of coding that allows software to act almost human by performing humanistic functions such as having casual conversations (Meta, 2024), creating art (Guinness, 2023) and even editing pieces of writing for the user (Ellefson, 2024). It aims to help people focus on more important aspects of their lives by performing menial tasks for them. However, day-to-day menial tasks are different for everyone, which is why AI has been developed so that it may apply itself to many different situations.

### How AI Is Used to Benefit the General Society

Many people believe that AI is not yet a requirement in their lives and that it is merely a convenience. They are mistaken,

however, because most of the software one uses is run by AI. Simple tasks such as biometric identification when accessing one's cell phone (via fingerprints and facial recognition), online advertising that leads to online shopping, and subtitles and translations of videos and various other media are just a few examples. In fact, this essay identified these different uses proposed by the European Parliament (2023) because search engines such as Google exist, which are run using AI.

### **How AI Is Being Used by Students**

A large part of South African society is youth (Worldometer, n.d.), a majority of whom are studying to some extent (Statistics South Africa, 2024). Once one reaches a tertiary educational institution, one is taught about the importance of adapting to advancing technology to stay current and relevant. If one falls behind the uses of technology, it may be difficult to pass and even retain a stable career. Not everything is taught during lectures, however, and much information and advice about these various uses are exchanged among the students themselves.

There are several ethical ways to use AI. An example would be to reference the work that the AI produced instead of claiming it as one's own – this involves rephrasing the given text into one's own words as one would ordinarily do with academic writing (Foltynek et al., 2023). An even better alternative would be to use AI to explain a certain concept in simple terms so that the student may gain an understanding of the topic before looking into more complex academic writings. A safe and easily accessible example of such an AI tool that may be used for this purpose is WhatsApp's Meta AI (Meta, 2024). If a student opts for this alternative, they can even request that the AI tool provide academic sources for the information that the student may proceed to use. Unfortunately, very few studies have officially taught new students how to use such AI tools in this way (Foltynek et al., 2023).

Despite these productive methods of integrating AI into one's learning, many students face many problems when attempting to do so. The first is the intentionally unethical behaviour of people who are not necessarily students. Such

people may use AI to generate fictitious content, which is then posted on various websites and platforms that are easy for students to access. Alternatively, artists and researchers may use AI to generate realistic or true content, label it correctly, and then a third party removes and reposts the same information without disclaimers stating that the work is AI (Rossi, 2024). Students may believe that false information is true or that artificially generated images are real and use these items in their bodies of work. Experienced academics have more exposure to academic sources and are therefore more likely to identify when a piece of writing appears to be artificially generated, but younger students – particularly undergraduates – who are new to the idea of academic writing may lack this skill (Foltynek et al., 2023).

The second problem lies with reference. This essay previously touched on how AI is often used by students since its ability to write well has improved (Ellefson, 2024). It can produce full, cohesive articles of work based on reliable sources, and this ability is sadly unused or abused. When the ability to cite reliable sources is unused, students are afraid of referencing the work because they either do not know how to do it or they are afraid that their educational institution will penalise them for not using widely accepted academic sources (Foltynek et al., 2023). When abused, rather than forming their own pieces of writing based on personal research, some students choose to have an AI tool complete it for them, and they submit AI-generated answers. This is an act of intentional plagiarism and is therefore unethical (Diamond, 2024). Furthermore, because students in earlier years of their studies (particularly undergraduates) are usually marked more leniently, they are less likely to be caught committing such plagiarism than are students who are, for example, working towards a doctorate and are therefore more likely to participate in such activities. In contrast, recent studies have investigated the frequency of younger students using AI in this manner, and the minimal results available have shown a decreasing trend in cheating overall since the introduction of AI (Spector, 2023).

## **Consequences of Using AI Unethically**

Using AI for unethical behaviour in an educational setting is dangerous for any student. Whether it is used to commit plagiarism through stealing intellectual property or to dampen creativity and innovation (Ofem et al., 2024), such behaviour is punishable by the institution alone, as there is no official legislation in the law of South Africa as of yet (Ka Mtuze & Morige, 2024). Furthermore, it puts future clients at risk. For example, if a medical undergraduate student uses AI tools to formulate assignments to be submitted (Reich, 2022), they learn little about the research process (Villegas, n.d.). They are most likely incapable of furthering their studies to become a certified doctor. This is because the student has not fully completed the requirements of becoming a doctor ethically and may lack sufficient knowledge needed to succeed in this field of work. As one can see, it is not only the users of the AI who may be affected but also the general public.

## **Some Personal Experiences with AI**

As the author of this essay, I am an undergraduate in my first year and am in contact with many fellow undergraduates. For my own work, I have occasionally used Meta AI to help explain certain concepts in economics and accounting because I could engage in an exchange of questions and answers until I was satisfied with my understanding. For one of my essays earlier this year, I struggled to find a topic to discuss. I gave Meta AI a summarised version of my essay question, and it responded with several options about which I could write. Once I had told it which option I wished to use, it even gave me an idea of how to structure my essay (which I later decided against using). I found the topic easy to write about and ended up receiving a distinction for the essay. My university – University of Johannesburg – has also been forward-thinking enough to introduce an online AI course to assist students who are interested in and learning about these technologies (University of Johannesburg, 2021), and I have chosen to partake in this course.

I have also talked to multiple other undergraduate students about this topic, and they have had similar

experiences. Some of my colleagues have used it in various ways, for example, to summarise whole textbook chapters to make studying easier or to summarise and extract key points from case studies we were to be examined. Most of my colleagues make use of AI tools that assist in improving their grammar; Grammarly is the most common tool (Ellefson, 2024). I have also talked to several people who have used AI to generate full pieces of writing, which they later submitted as their own work; however, all of these have been in situations in which they may have been joking with their friends.

In conclusion, our world is developing very quickly within the realm of technology. To keep up with current events and trends, everybody must keep up with this developing technology – especially students who are entering educational institutions that allow them to enter professions later in their lives. Because it may seem challenging to use at first, tertiary educational institutions ought to educate their new undergraduates on these topics if they have any hope of creating stable, promising futures for their students.

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