ARTIFICIAL INTELLIGENCE REPORT

AI IN EDUCATION

Artificial Intelligence (INT 404)

Submitted by:

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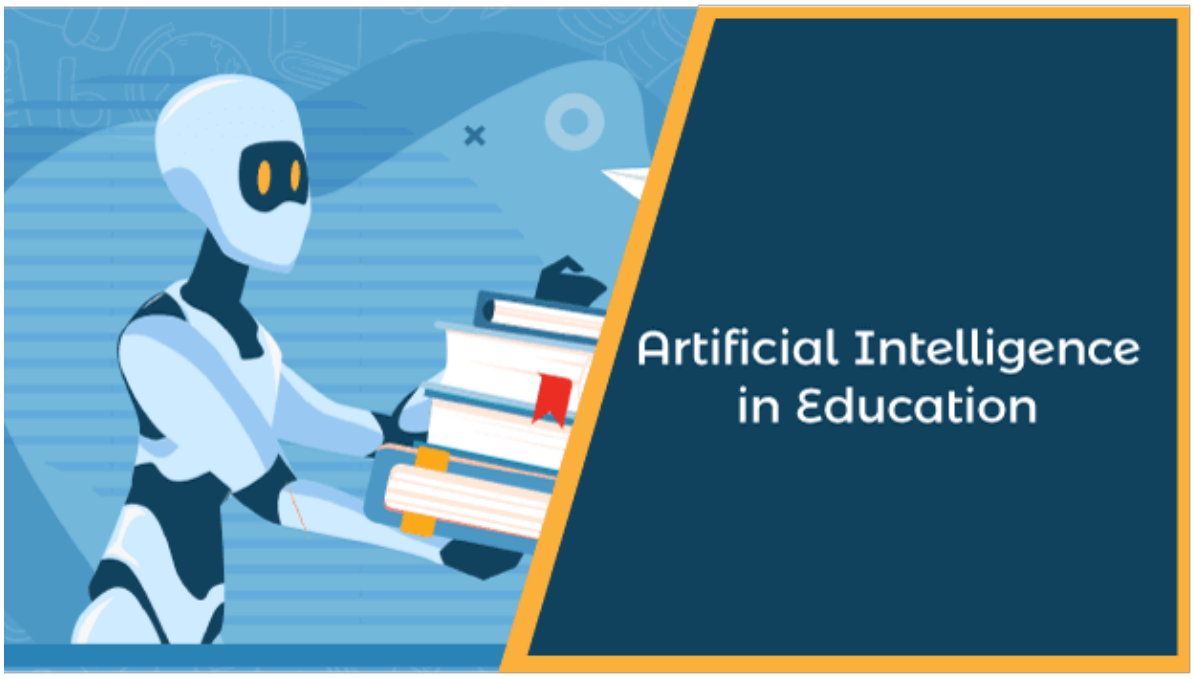
ABSTRACT

The purpose of this study was to assess the impact of Artificial Intelligence (AI) on education. Premised on a narrative and framework for assessing AI identified from a preliminary analysis, the scope of the study was limited to the application and effects of AI in administration, instruction, and learning. A qualitative research approach, leveraging the use of literature review as a research design and approach was used and effectively facilitated the realization of the study purpose. Artificial intelligence is a field of study and the resulting innovations and developments that have culminated in computers, machines, and other artifacts having human-like intelligence characterized by cognitive abilities, learning, adaptability, and decision-making capabilities. The study ascertained that AI has extensively been adopted and used in education, particularly by education institutions, in different forms. AI initially took the form of computer and computer related technologies, transitioning to web-based and online intelligent education systems, and ultimately with the use of embedded computer systems, together with other technologies, the use of humanoid robots and web-based chatbots to perform instructors' duties and functions independently or with instructors. Using these platforms, instructors have been able to perform different administrative functions, such as reviewing and grading students' assignments more effectively and efficiently, and achieve higher quality in their teaching activities. On the other hand, because the systems leverage machine learning and adaptability, curriculum and content has been customized and personalized in line with students' needs, which has fostered uptake and retention, thereby improving learners experience and overall quality of learning.

Artificial Intelligence in Education



Education is an important part of life for everyone, and a good education plays a vital role to have a successful life. In order to improve the education system for the students, there are always a lot of changes happening around the world, ranging from the way of teaching to the type of curriculum. Artificial Intelligence is a thriving technology that is being used in almost every field and is changing the world. One place where artificial intelligence is poised to make big changes is (and in some cases already is) in education Artificial Intelligence in Education is developing new solutions for teaching and learning for different situations. Nowadays, AI is being used by different schools and colleges across different countries. AI in education has given a completely new perspective of looking at education to teachers, students, parents, and of course, the educational institutions as well. ***AI in education is not about humanoid robots as a teacher to replace human teachers, but it is about using computer intelligence to help teachers and students and making the education system much better and effective.*** In future, the education system will have lots of AI tools that will shape the educational experience of the future. In this topic, we will discuss the impact and application of Artificial Intelligence on Education. To better understand this topic, let's first understand what AIED is?

Importance of AI in Education

The mention of artificial intelligence brings to mind a supercomputer, a computer with immense processing capabilities, including adaptive behavior, such as inclusion of sensors, and other capabilities, that enable it to have human-like cognition and functional abilities, and indeed, which improve the supercomputers interaction with human beings. Indeed, different motion pictures have been made to showcase the abilities of AI, such as in smart buildings, such as the ability to manage air quality in a building, temperatures, and or playing music depending on the sensed mood of the occupants of the space. Within the education sector, there has been increased application of artificial intelligence, going over and above the conventional understanding of AI as a supercomputer to include embedded computer systems.

1. AI-POWERED REMOTE PROCTORING

As online proctoring generates a large quantity of image/audio/video streams, the same can also be analysed automatically using AI-based algorithms. Products like UCanAssess and Smart Exam meet the demanding high stake exam criteria and remote proctoring services.

2. HOW DOES AI HELPS CONDUCT FAIR EXAMS?

The AI Proctored assessment uses a combination of artificial intelligence and human proctors. Since a video of the candidate taking the test is recorded through a webcam, the AI is able to flag or report any suspicious movement or activity.

An AI-assisted proctor is software that is often powered by artificial intelligence (AI), which keeps an eye on a candidate. It helps educational institutions by detecting voices, detecting another person apart from the examinee.

The innovation also has the ability to freeze the examinee's computer or phone screen, which stops them from opening any other tab on the device. The high-end proctors have the ability to read the candidate's eye movement, which means reading from another device or a book. Any gestures and movements of the body can be captured as well. In some cases, audio and video of the examinees are recorded. In case of any issue, a message is sent to the authorities.

3. LEARNING THROUGH CHATBOTS

Chatbots are available 24x7 and help to resolve students' and potential student's doubts related to admission, fees, subjects, classes, teachers, etc. It helps students to solve queries at any time of the day. The Education chatbot works in a very effective and efficient manner. It presents a specific topic to the students in the form of text, images, videos, or a combination of these. After learning the topic, students take quizzes and submit the results to their teachers.

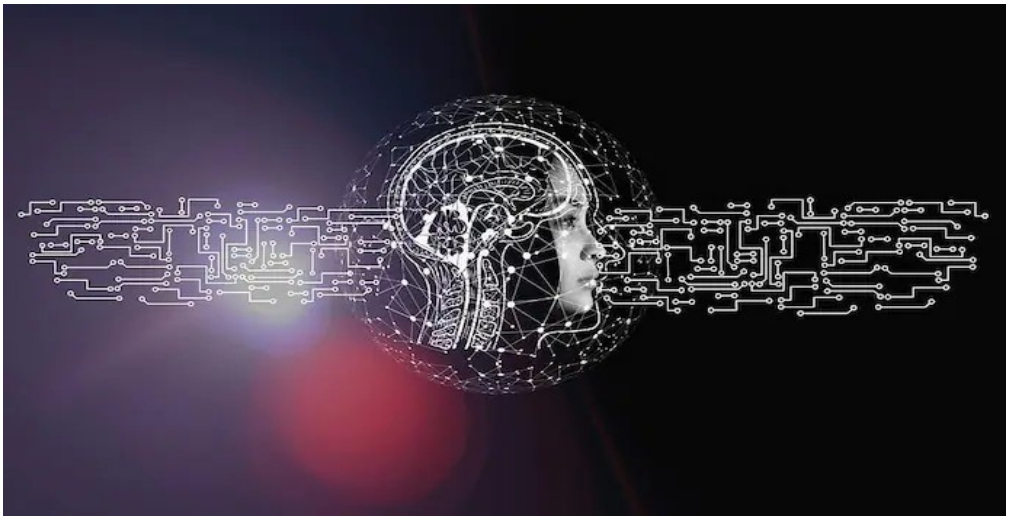
4. PERSONALISED LEARNING THROUGH RECOMMENDATIONS

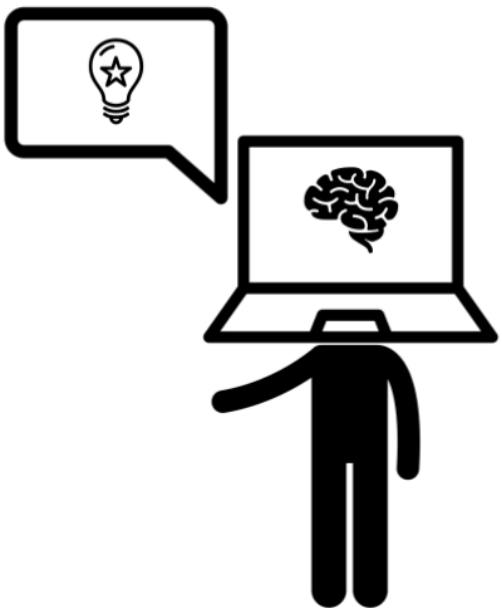
AI helps students get personalised answers to relevant questions from teachers. It also helps educate students according to the issues and questions they face in class materials and online sessions. Students now have access to a larger system for interacting with professors.

5. EDUCATION WITHOUT BOUNDARIES

AI can now help manage education systems, including exams, beyond boundaries. AI is facilitating the learning of any course across the globe and at anytime and anywhere.

Many AI applications are being used within the framework of the education system to help students get educated through online courses and online exams and to help many schools and colleges acquire the right students around the world.





ChatGPT, Chatbots and Artificial Intelligence in Education

CHATGPT is the latest revolutionary chatbot which is an implementation of AI in the field of Education.

ChatGPT is an artificial intelligence chatbot. Drawing on tons and tons of data and massive processing power, it uses GPT3 technology to let users talk to the AI about practically anything.

- What is ChatGPT? And, more broadly, what are chatbots and AI?
- How is AI going to impact education?
- How can I teach tomorrow knowing that this exists?
- Can I use this as a tool for teaching and learning?

1. ChatGPT, what are you?

I am an artificial intelligence assistant trained by OpenAI to help answer questions and provide information on a wide variety of topics. I am not a physical being, but rather a program that is designed to process and generate text based on the input I receive. My primary function is to assist users like you by providing information and answering questions to the best of my ability. I have been designed to have a conversational style and can understand and respond to natural language input. I do not have personal experiences or feelings, and my responses are based solely on the information and knowledge that has been programmed into me. Is there anything else you would like to know?

2. What is a chatbot?

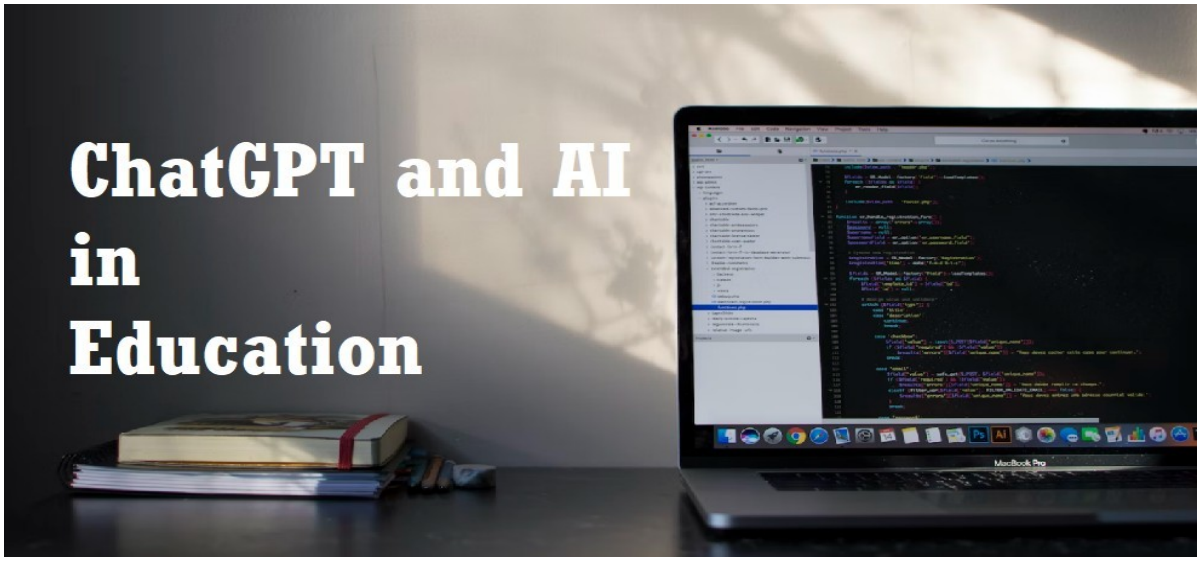
A chatbot is a computer program designed to simulate conversation with human users, especially over the Internet. Chatbots are often used in customer service, marketing, and other areas where being able to communicate with customers or users in a natural, human-like way is important. Chatbots can be programmed to understand and respond to specific commands or questions, or they can be more general and able to hold a conversation with users on a wide range of topics. They can be integrated into websites, messaging apps, and other digital platforms, and they can be programmed to use natural language processing (NLP) techniques to understand and respond to user input. Chatbots can be very useful for automating tasks and providing quick responses to frequently asked questions, but they are not as advanced as some other artificial intelligence (AI) systems and may not be able to hold more complex or nuanced conversations.

3. What is artificial intelligence?

Artificial intelligence (AI) refers to the ability of a computer or machine to perform tasks that would normally require human intelligence, such as learning, problem-solving, decision-making, and more. There are several different approaches to building AI systems, including machine learning, where a system is trained on a dataset and can improve its performance over time, and rule-based systems, where the system follows a set of predetermined rules to make decisions. AI can be applied to a wide range of areas, including natural language processing, image and video recognition, robotics, and more. The goal of AI research is to create systems that can perform tasks at least as well as, or ideally better than, humans. AI has the potential to revolutionize many industries and transform the way we live and work, but it also raises important ethical and social questions.

Students will have to learn how to navigate life with AI.

- Big picture, this is a shift students will deal with for the rest of their lives. Artificial intelligence will continue to get better and better.
- Students will have to wrestle with questions of humanity -- what sets us apart as humans? When should AI be used, and when shouldn't it be?
- They'll wrestle with questions of obsolescence -- what can I do that AI can't do? How can I do my best to be sure my work, my passions, my place in this world isn't replaced by artificial intelligence?
- They'll wrestle with ethical questions -- how can AI use be fair, equitable, unbiased, good? What happens if it gets in the hands of bad actors? How can I make sure I'm using it in an ethical way?

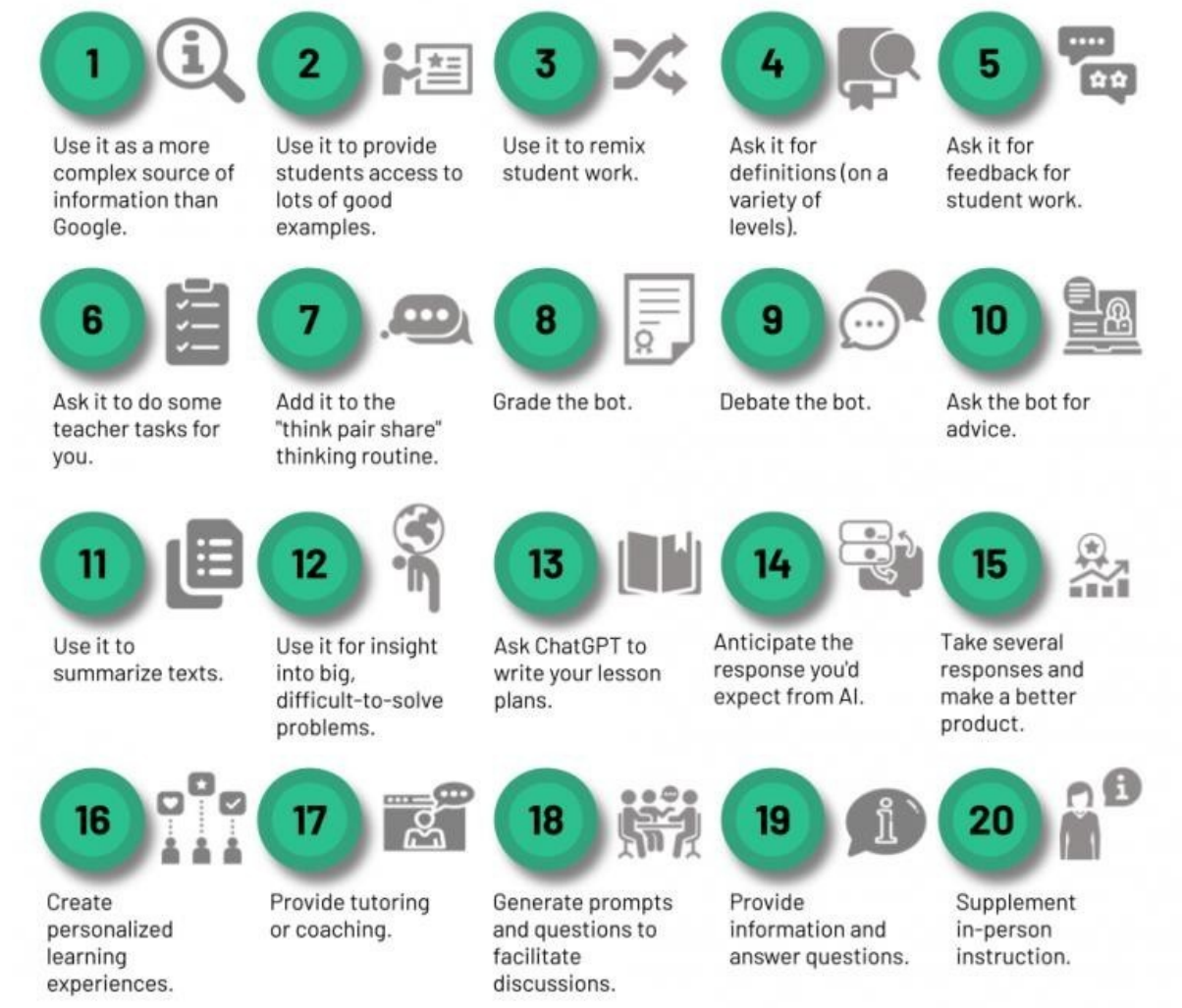


Can Teachers use Chatbots as a tool for teaching and learning?

The answer here is ABSOLUTELY. The longer that AI and tools like ChatGPT are around, the more that teachers will try new teaching and learning strategies with it.

The more that teachers try new things and share them widely, the more that the educator community will move forward with new ideas. In short: we will figure this out together, even though it will take some time.

But ... what will it look like?



1. Use it as a more complex, nuanced source of information than Google.

During conversations with students and in-class discussions, we can ask Chatbots (and other tools like it) to provide us the information we need to drive a conversation forward. The bot's response isn't the first and last word in the conversation. Rather, it just provides details that we can use to discuss a topic.

2. Use it to provide students access to lots of good examples.

Think about how musicians and artists develop their style. They copy their mentors. They take their favourite influences and emulate them. Artists take a canvas to an art gallery or the park, and they paint what they see.

I keep remembering this quote from fashion designer Yohji Yamamoto, which I learned about through Austin Kleon's book, Steal Like an Artist:

"Start copying what you love. Copy copy copy copy. At the end of the copy you will find yourself." -- Yohji Yamamoto

This is also the benefit of being well-read. When students see enough good examples, they start to know what to expect of good writing. Good reasoning. Good logic. They see the hallmarks of it and they can emulate it ... much like a writer or painter emulates the greats.

Artificial intelligence can give students unlimited good examples. (Note that I didn't say "great" examples, but "good.") Ask it for an essay about a certain topic. Then ask it again and it'll give you something different. Then ask it again. Then ask for a slightly different version, specifying something you'd like to see.

When it's time for the student to create something of their own, much like an artist or musician studying the greats, the student will draw from the examples they've seen.

3. Use it to remix student work.

Students create something for class: a story, an essay, a poem, a recap of something they've learned. Then, they can ask Chatbots (or a similar tool) to remix it for them.

My favourite example to date of this comes from Donnie Piercey, a fifth grade teacher and the 2021 Kentucky Teacher of the Year. He took a student story and asked Chatbots to remix it as a nursery rhyme, a soap opera, a sea shanty, and a children's book -- with suggested illustrations! Listen as he tells the story in the video below.

When students see how their work has been remixed, it can open them up to new opportunities.

4. Ask it for definitions (on a variety of levels).

If you need a concept explained or defined, Chatbots (or a similar tool) can provide that explanation -- and do it in as detailed or simple a manner as you'd like.

On episode 99 of the Partial Credit Podcast, Jesse Lubinsky shared that he asked for a definition of "faith" in terms a child would understand. That helped me realize that it can give definitions, descriptions, and explanations -- we expected that -- or it can level them up or down in complexity however we ask.

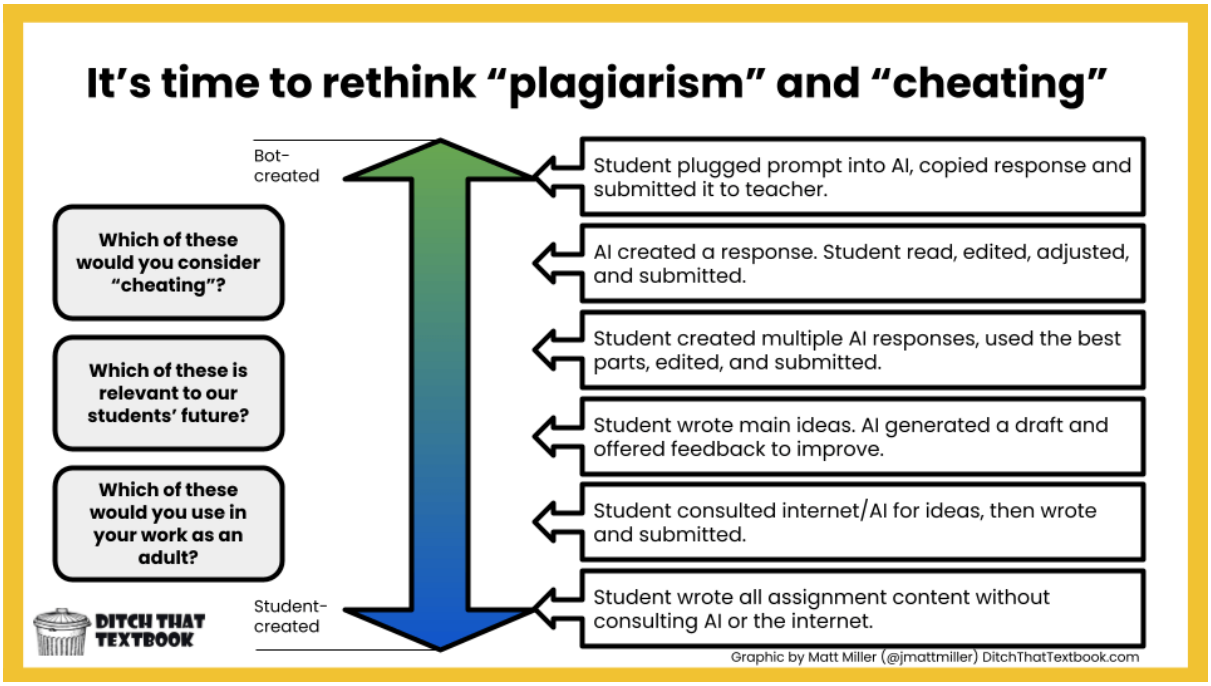
5. Ask it for feedback for student work.

We know that one key aspect to effective feedback is that it's timely. With traditional paper-based work, students turn it in and must wait for teachers to grade it -- and return it! -- before they can see feedback. Lots of edtech tools are letting us get feedback to students more quickly -- whether automated or through direct communication with a teacher or classmate.

Chatbots (or a similar tool) can be another source of feedback. When students finish a written work, they can copy/paste their work into Chatbots and ask how they can improve their writing. For example, I copied one of my blog posts into Chatbots and simply asked how I could improve it. It gave me a list of five suggestions, including transitional phrases, adding more examples, and breaking it up into shorter paragraphs. (Better start a new paragraph now ...)

Of course, it's up to the student -- and based on what the student has learned about writing -- to decide whether to implement the advice and how.

How to define "cheating" and "plagiarism" with AI



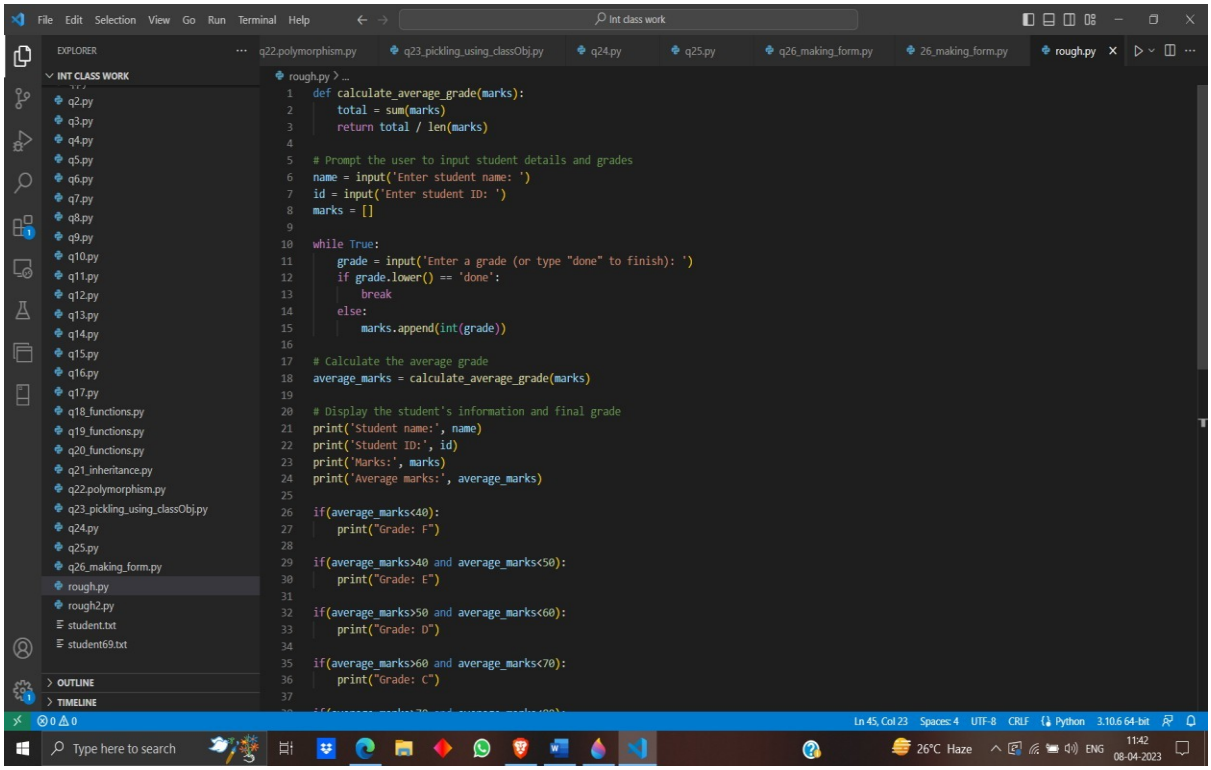
We're going to have to draw a line -- as educators, as schools, even as school districts -- to determine what we're going to allow and what we aren't.

- The artificial intelligence available today is some of the least powerful our students will see in their lifetime. (**ChatGPT is like the MySpace of artificial intelligences**). We'll look back on it and laugh at how powerful we thought it was.)
- Think of a 10-year-old in school right now. She graduates high school in eight years. She graduates college in four years.
- By the time she enters the workforce, artificial intelligence has improved and evolved for 12 years.
- As we consider our answer to the question, "What is plagiarism/cheating?," **our answer has to be relevant to that student in 12 years.**

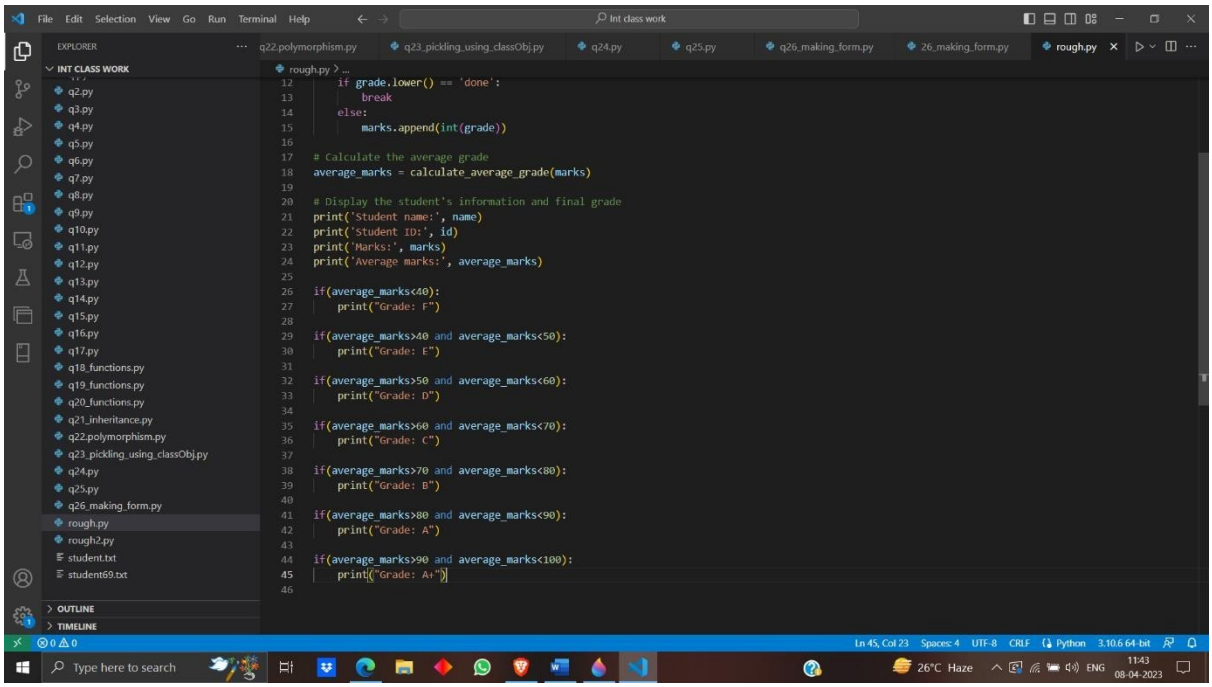
Which of the above options would we use in our work as adults? **If we're willing to use AI in our work right now, it's only going to become more commonplace in the future.**

We don't have to have the perfect answer right now.

Basic program On Students Grading System

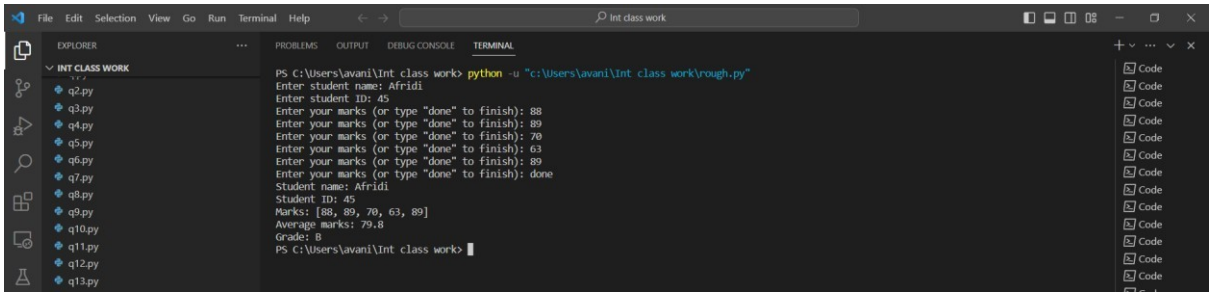


```
def calculate_average_grade(marks):
    total = sum(marks)
    return total / len(marks)

# Prompt the user to input student details and grades
name = input('Enter student name: ')
id = input('Enter student ID: ')
marks = []

while True:
    grade = input('Enter a grade (or type "done" to finish): ')
    if grade.lower() == 'done':
        break
    else:
        marks.append(int(grade))

# Calculate the average grade
average_marks = calculate_average_grade(marks)

# Display the student's information and final grade
print('Student name:', name)
print('Student ID:', id)
print('Marks:', marks)
print('Average marks:', average_marks)

if(average_marks<40):
    print("Grade: F")

if(average_marks>40 and average_marks<50):
    print("Grade: E")

if(average_marks>50 and average_marks<60):
    print("Grade: D")

if(average_marks>60 and average_marks<70):
    print("Grade: C")
```



```
    if grade.lower() == 'done':
        break
    else:
        marks.append(int(grade))

# Calculate the average grade
average_marks = calculate_average_grade(marks)

# Display the student's information and final grade
print('Student name:', name)
print('Student ID:', id)
print('Marks:', marks)
print('Average marks:', average_marks)

if(average_marks<40):
    print("Grade: F")

if(average_marks>40 and average_marks<50):
    print("Grade: E")

if(average_marks>50 and average_marks<60):
    print("Grade: D")

if(average_marks>60 and average_marks<70):
    print("Grade: C")

if(average_marks>70 and average_marks<80):
    print("Grade: B")

if(average_marks>80 and average_marks<90):
    print("Grade: A")

if(average_marks>90 and average_marks<100):
    print("Grade: A+")
```

Output: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EXPLORER
INT CLASS WORK
q2.py
q3.py
q4.py
q5.py
q6.py
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q9.py
q10.py
q11.py
q12.py
q13.py
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\avani\Int class work> python -u "c:\Users\avani\Int class work\rough.py"
Enter student name: Afridi
Enter student ID: 45
Enter your marks (or type "done" to finish): 88
Enter your marks (or type "done" to finish): 89
Enter your marks (or type "done" to finish): 70
Enter your marks (or type "done" to finish): 63
Enter your marks (or type "done" to finish): 89
Enter your marks (or type "done" to finish): done
Student name: Afridi
Student ID: 45
Marks: [88, 89, 70, 63, 89]
Average marks: 79.8
Grade: B
PS C:\Users\avani\Int class work>
Code

Conclusion

In conclusion, artificial intelligence (AI) has become an increasingly important tool in education. With its ability to personalize learning experiences, automate administrative tasks, and enhance student engagement, AI has the potential to revolutionize the way we teach and learn. However, there are also concerns about the ethical implications of AI in education, such as issues related to privacy, bias, and job displacement. Therefore, it is crucial to implement AI in education in a responsible and transparent manner, with a focus on student welfare and ethical considerations. As AI technology continues to evolve, it will be important for educators to keep up with the latest developments and adapt their teaching practices accordingly, in order to fully leverage the potential of AI in education.

STUDENT ROLE AND RESPONSIBILITY

- **SK AFRIDI :-**

  1. Coding the program.
  2. Making the pdf and gathering information.
  3. Managing and processing of the the gathered content.

- **Yashwant Singh :-**

  1. Designing of the ppt .
  2. Working on the real world example for AI in Agriculture.
  3. Coding and Making the website

- **Kavin Raj M A :-**

  1. Designing of the ppt .
  2. Working on the real world example for AI in Agriculture.