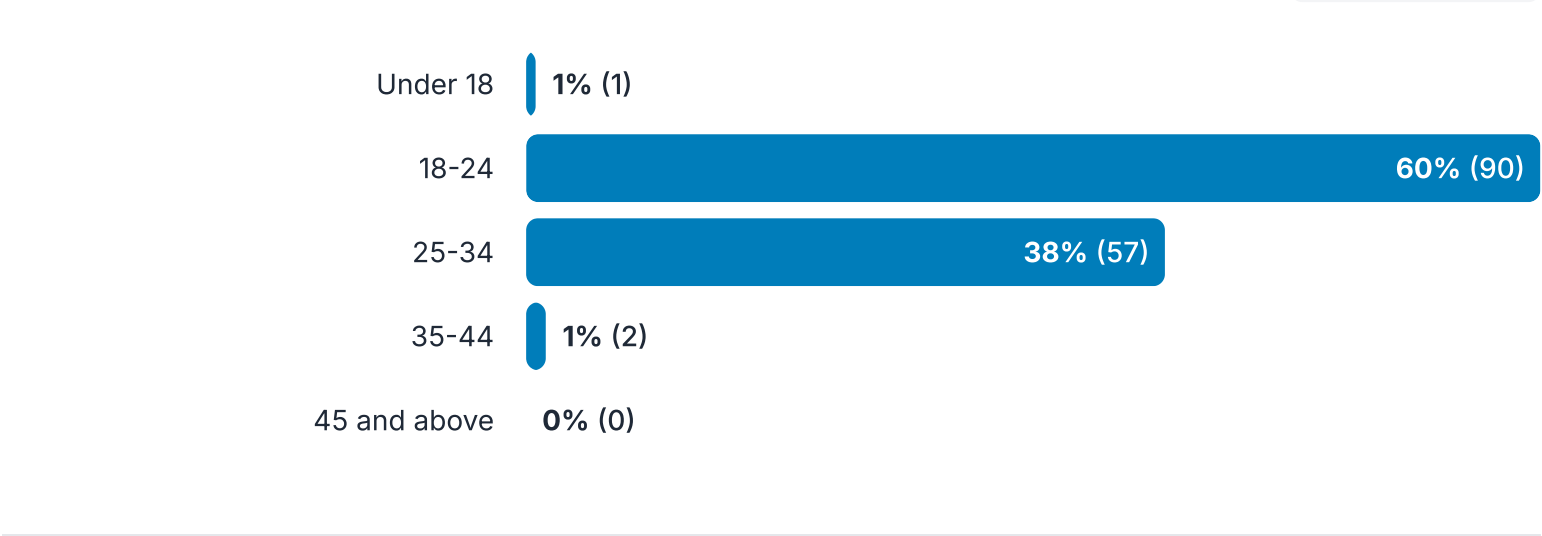


# Exploring Engineering Students' Perceptions of AI in Education with the Technology Acceptance Model (TAM)

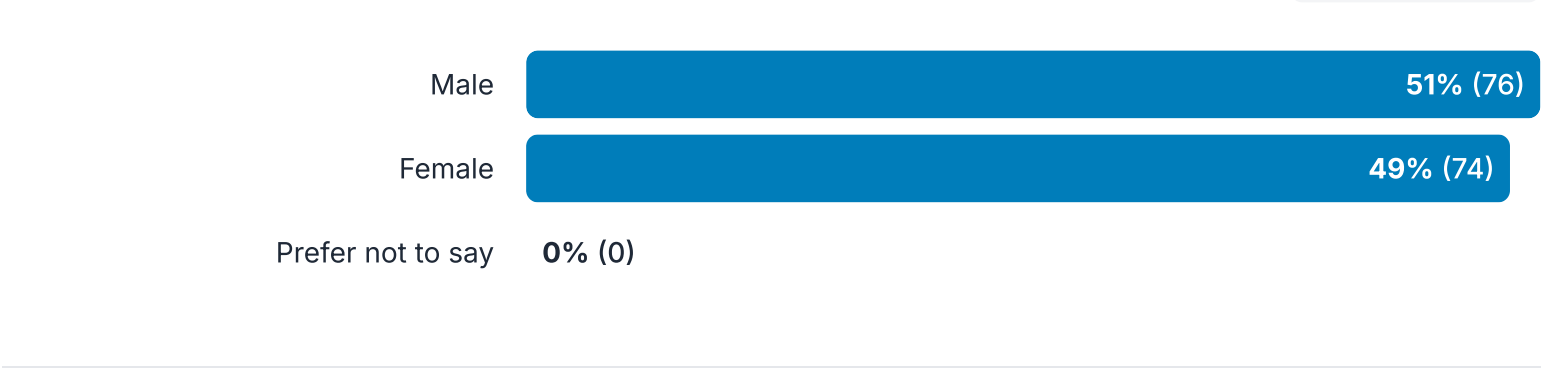
1. Age

Responses: 150



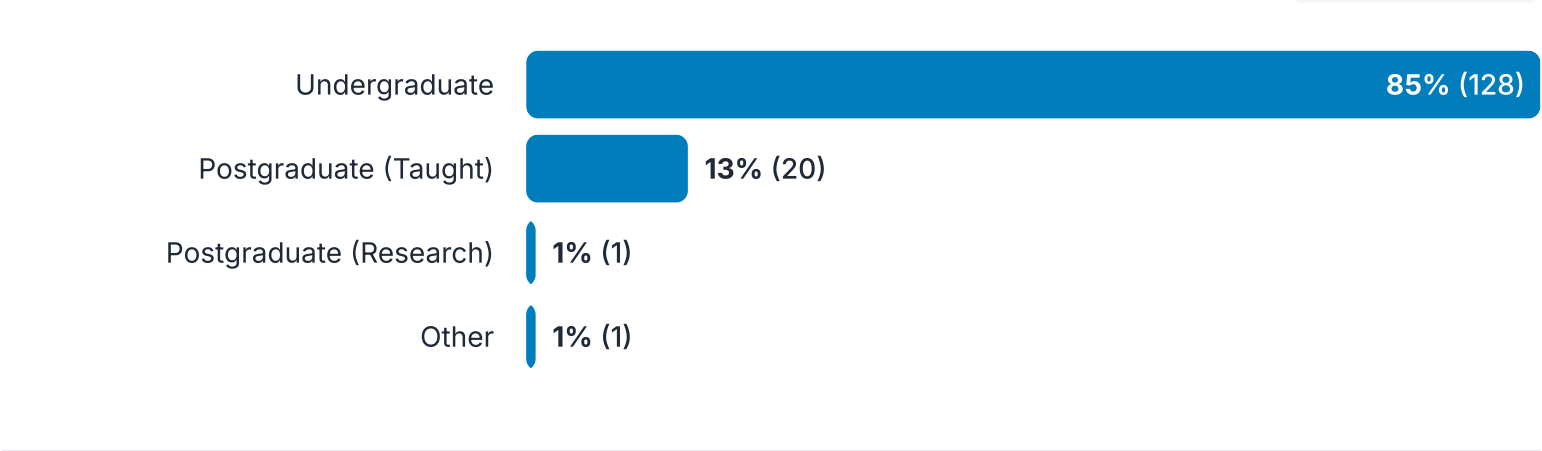
2. Gender

Responses: 150



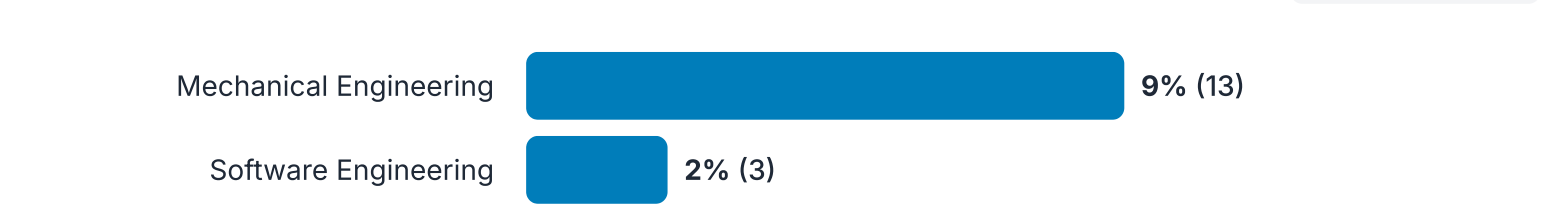
3. Academic Level

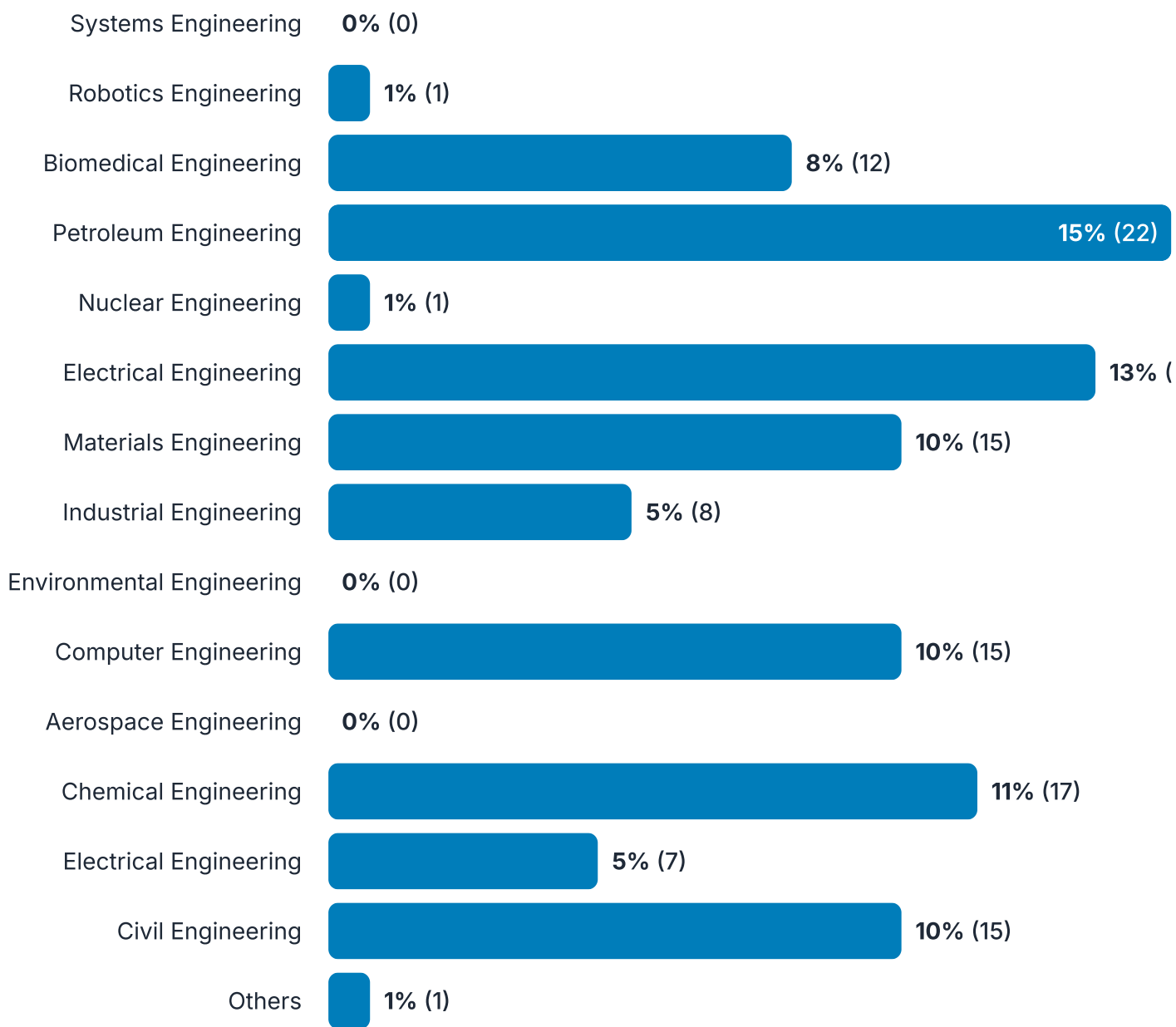
Responses: 150



4. Field of Engineering

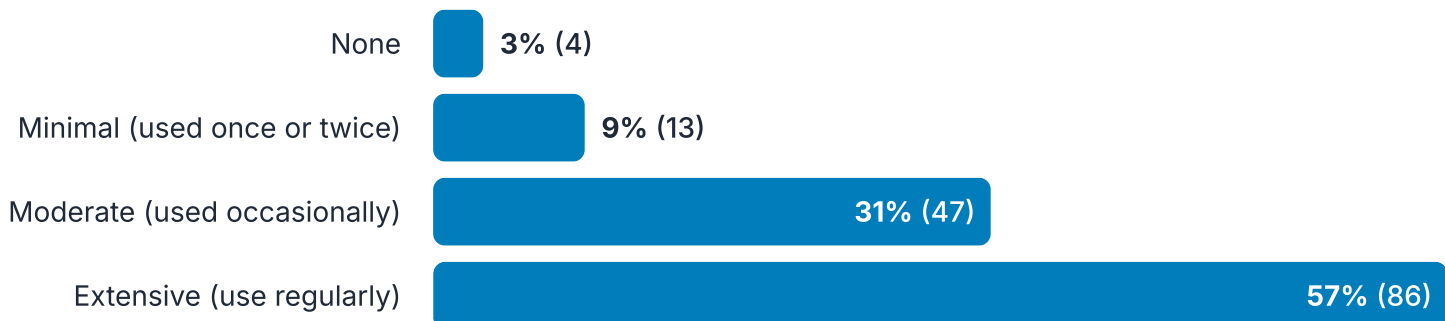
Responses: 150





## 5. Prior Experience with AI Tools

Responses: 150



## 6. Do you have regular access to a computer or similar device?

Responses: 150



No 0% (0)

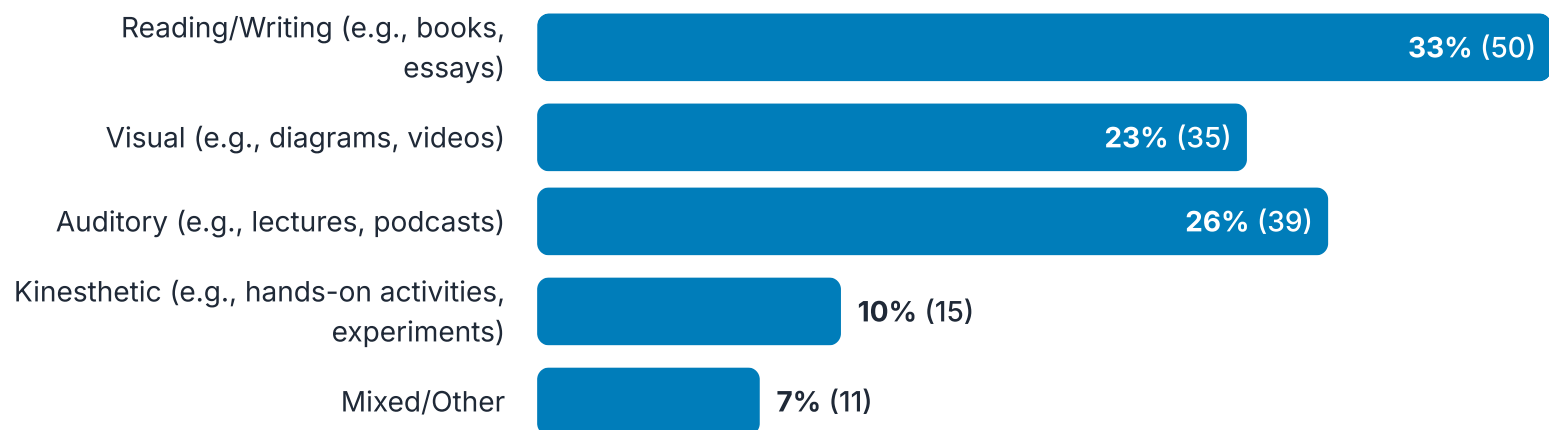
## 7. Do you have access to a stable internet connection?

Responses: 150



## 8. What is your Primary Learning Preference

Responses: 150



## 9. Age

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

## 10. Gender

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

## 11. Academic Level

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

12. Field of Engineering

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

13. Prior Experience with AI Tools

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

14. Do you have regular access to a computer or similar device?

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

15. Do you have access to a stable internet connection?

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

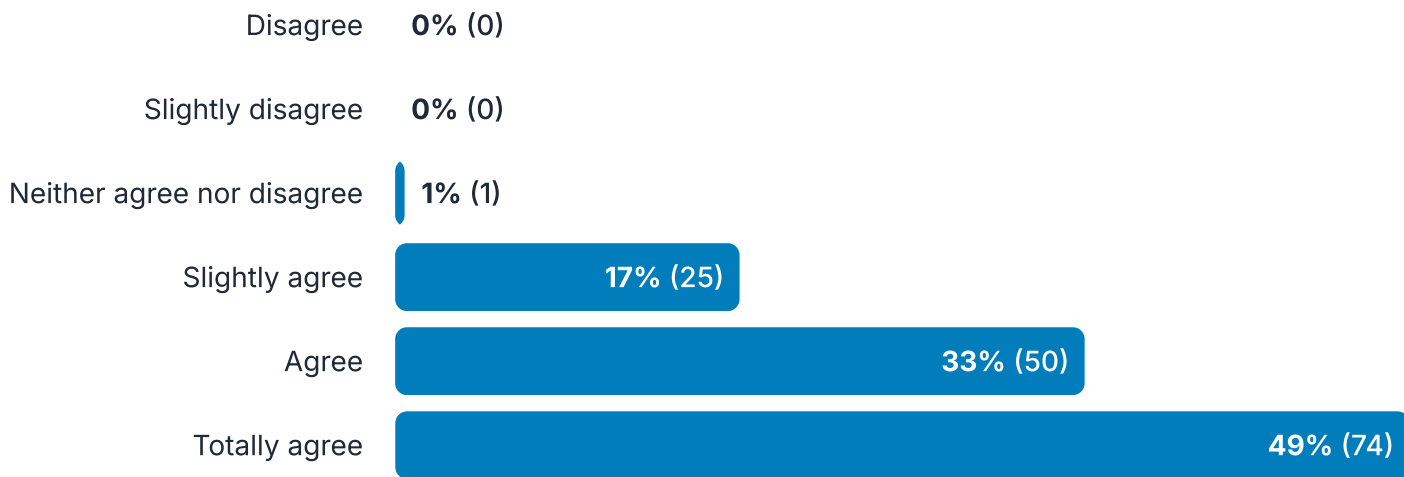
16. What is your Primary Learning Preference

Responses: 0

This question has no answers yet, the charts will be generated when a response is submitted.

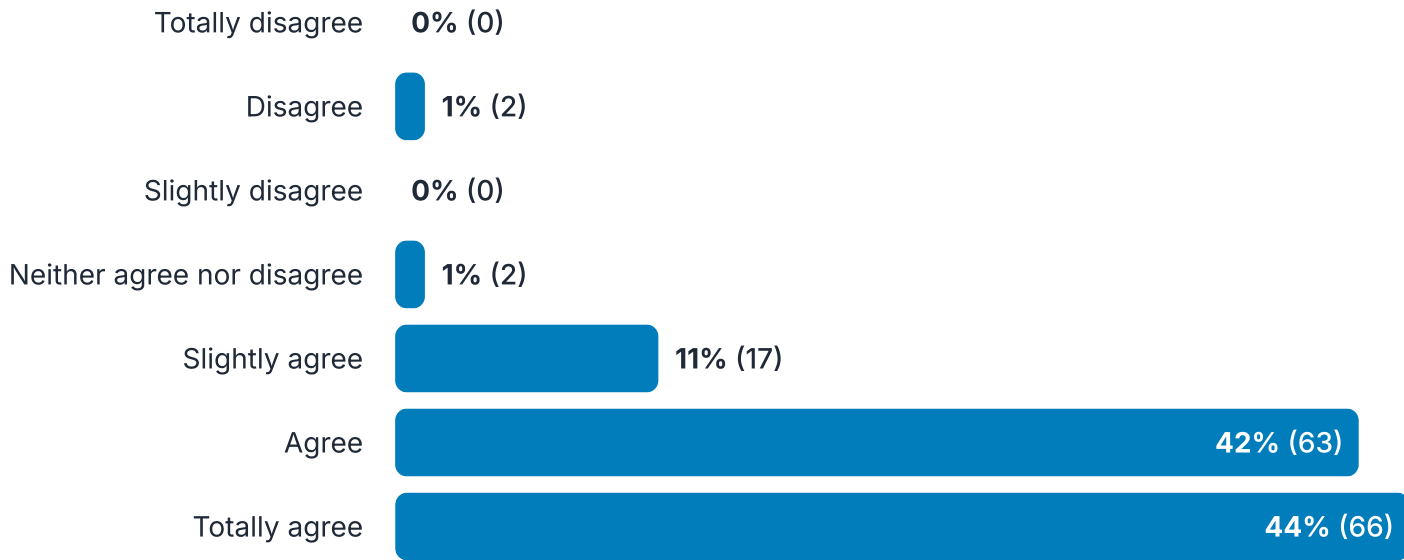
17. I feel comfortable using information and communication technologies in my studies.

Responses: 150



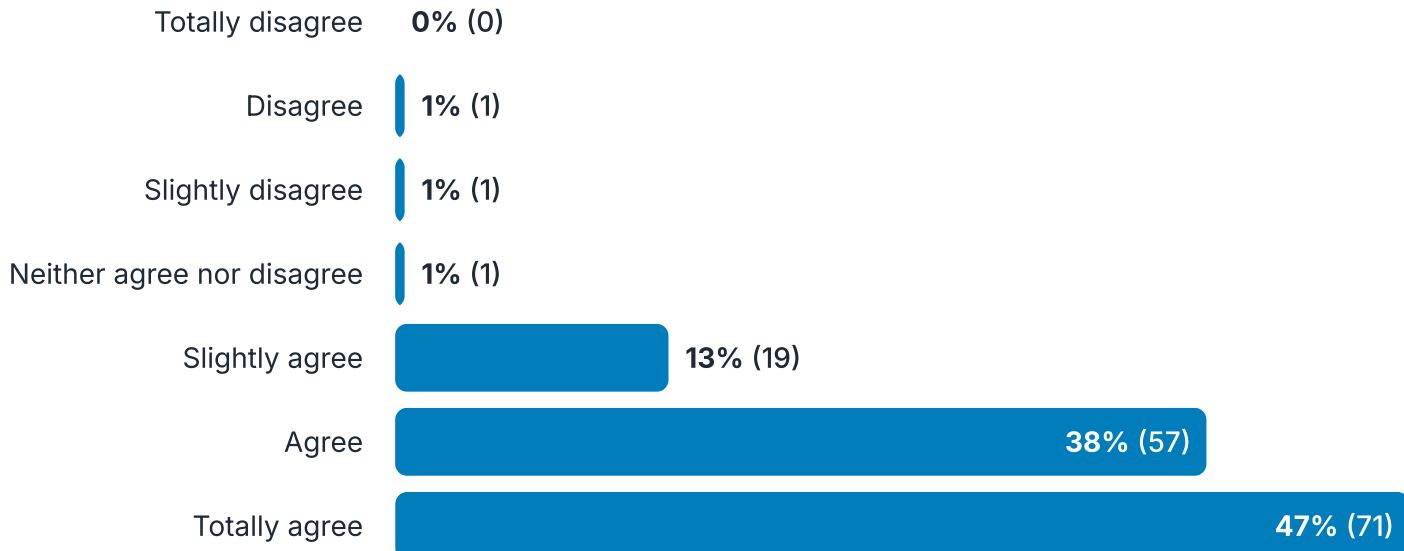
18. The use of AI tools could help me to complete assignments and projects more efficiently.

Responses: 150



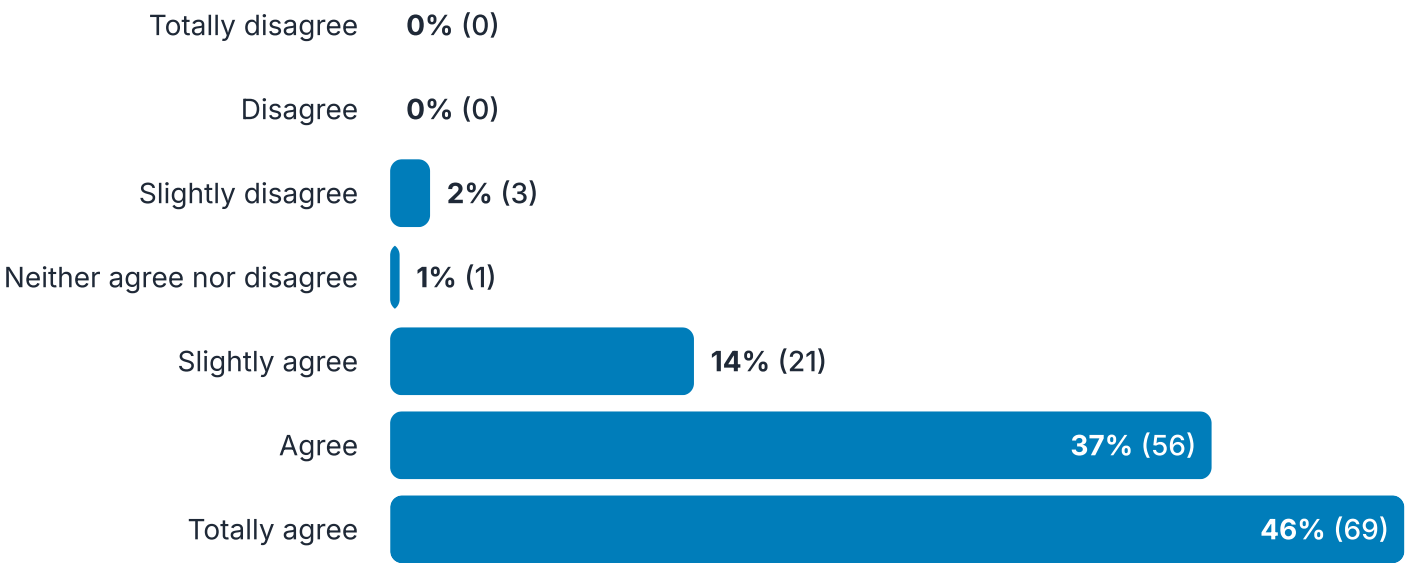
19. I think I could easily learn how to use AI tools for my academic work.

Responses: 150



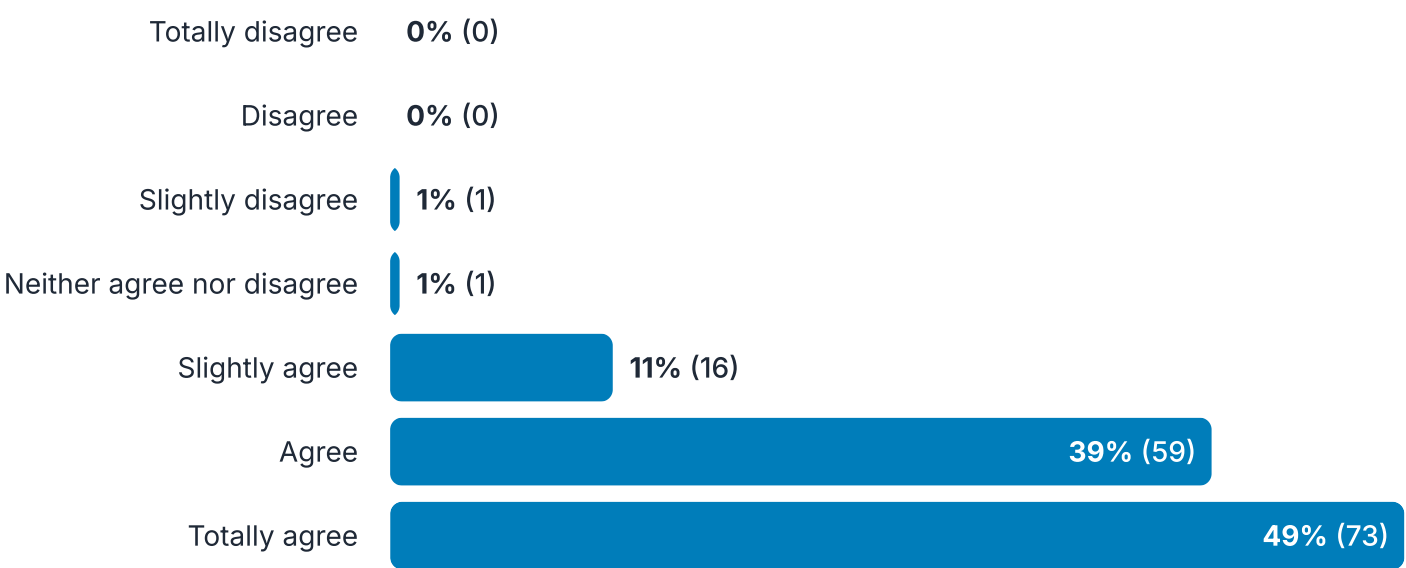
20. I think it is a good idea to use AI tools to support my learning and studies.

Responses: 150



21. I have the intention to use AI technology when it becomes available for students at my university

Responses: 150

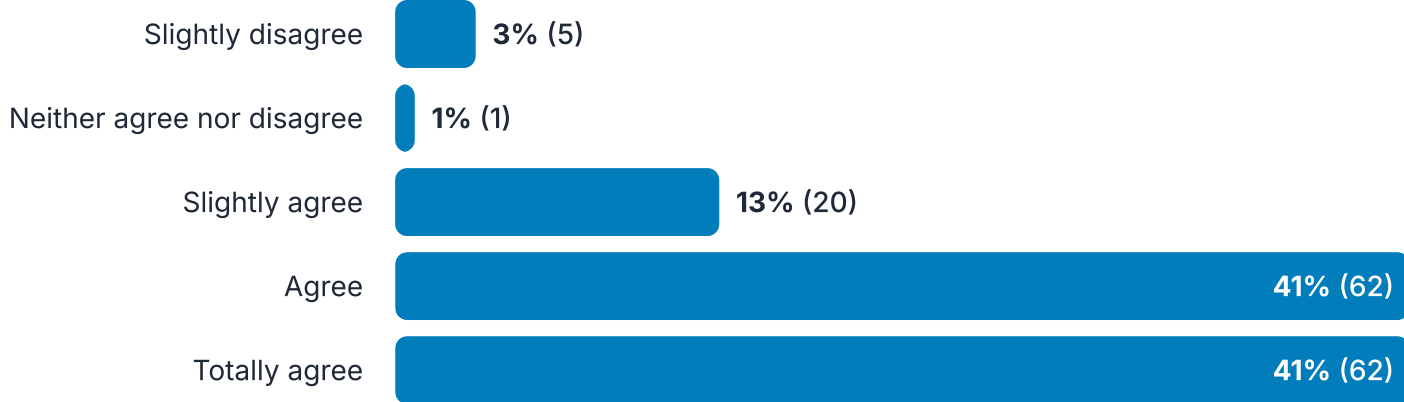


22. The use of AI technology may require significant changes in how I approach my studies.

Responses: 150

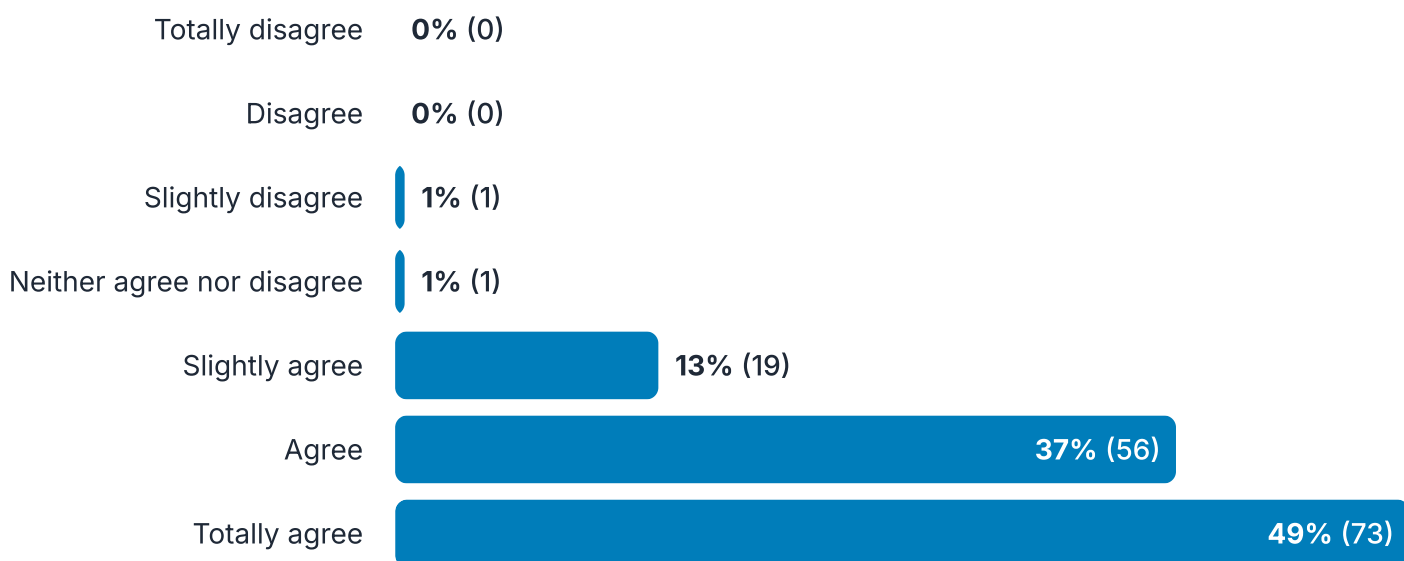
Totally disagree 0% (0)

Disagree 0% (0)



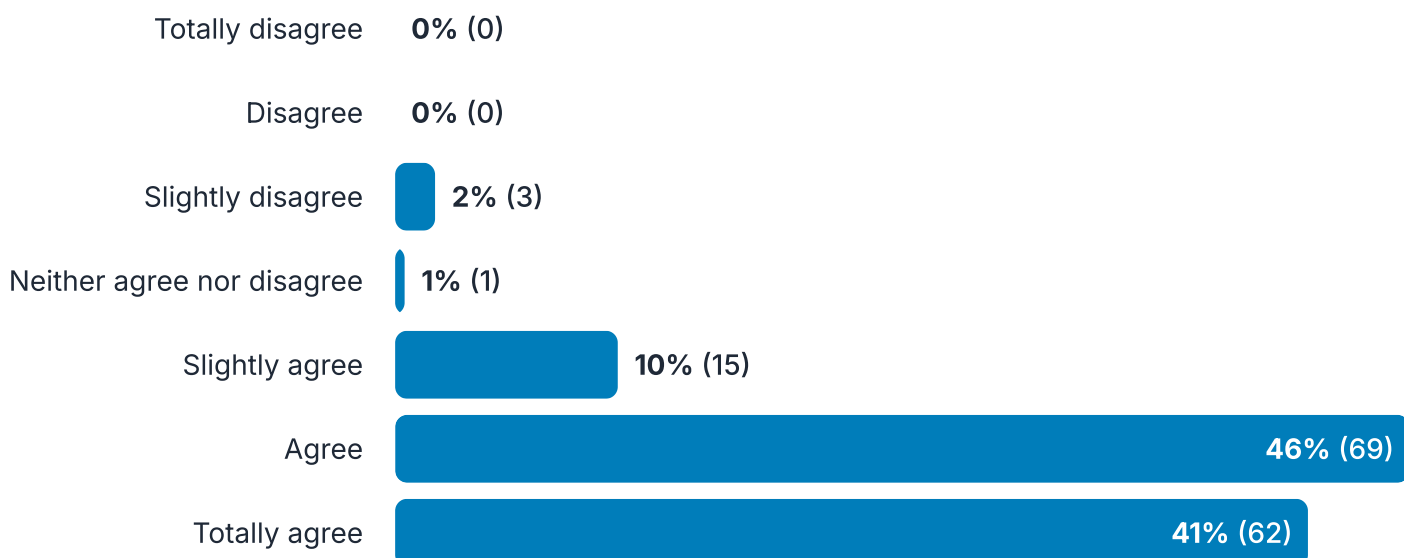
23. The use of AI tools may enhance my ability to learn and understand academic material.

Responses: 150



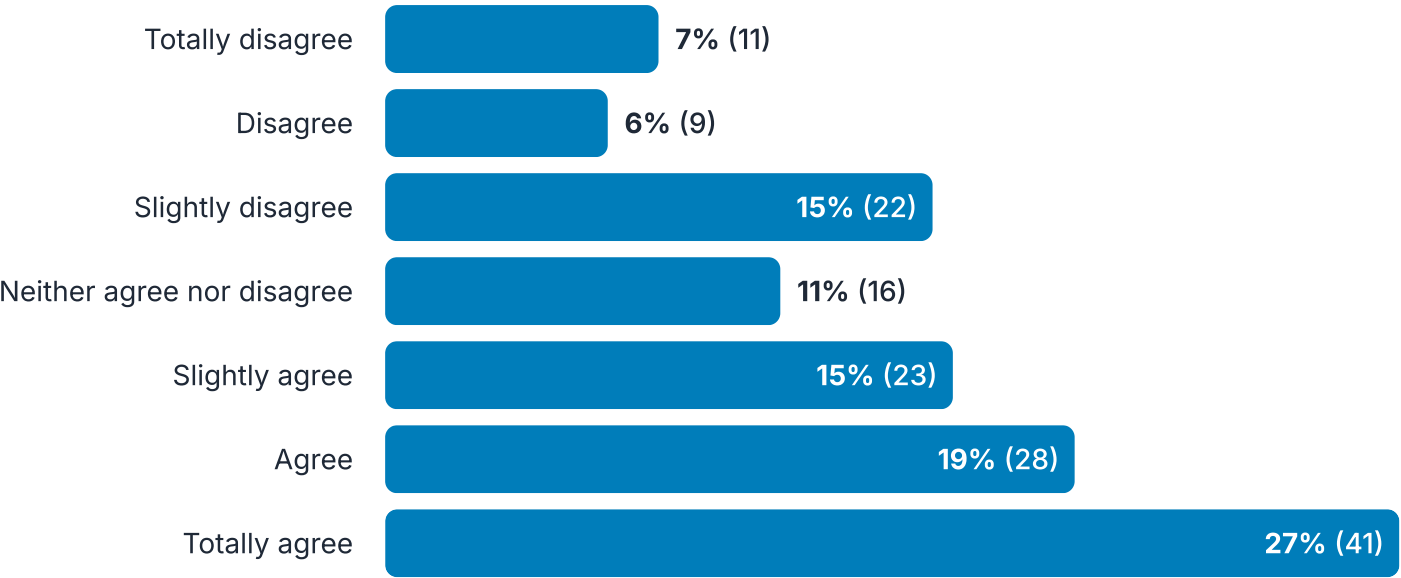
24. I think it would be easy to perform academic tasks using AI tools.

Responses: 150



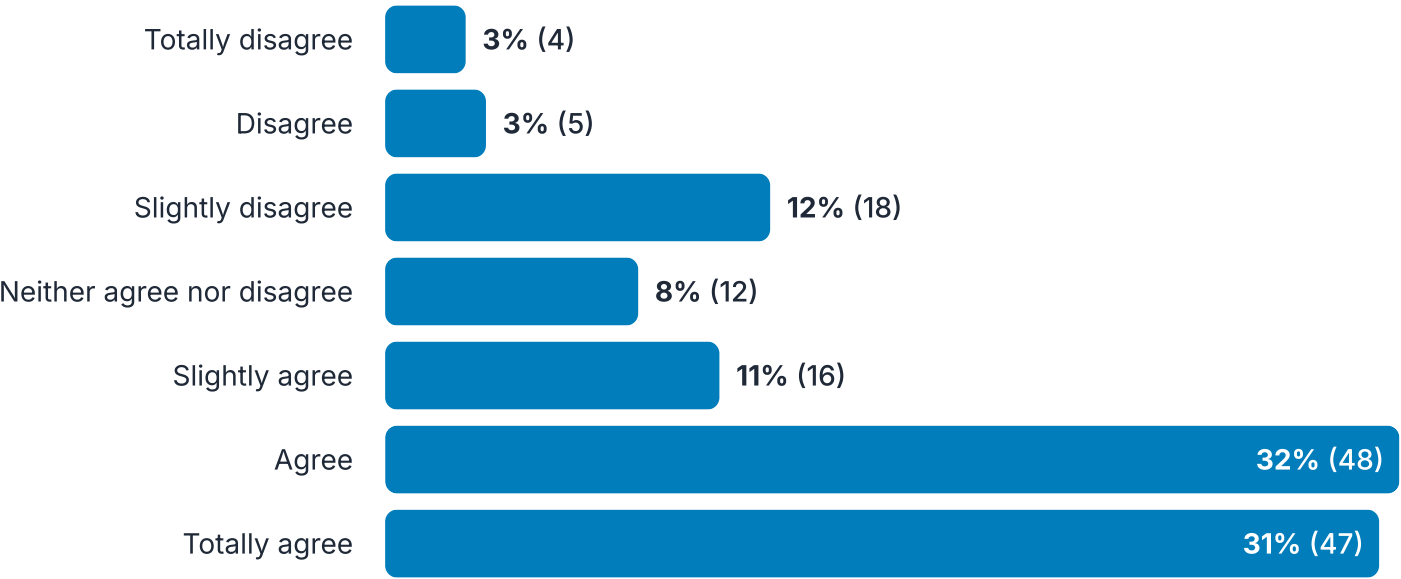
25. Most of my Lecturers will be open to using AI technology for our studies.

Responses: 150



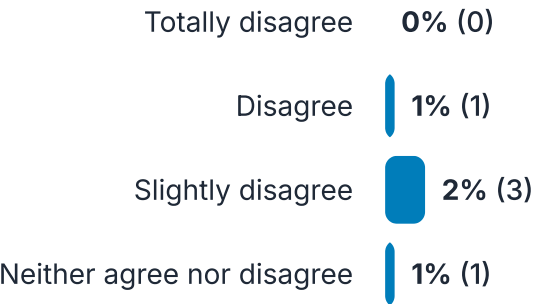
26. I think that my school has the necessary infrastructure to support the use of AI tools.

Responses: 150



27. AI technology could help me better manage my time and improve my academic performance.

Responses: 150





Slightly agree 10% (15)

Agree 37% (56)

Totally agree 49% (74)

28. I believe that the results provided by AI tools would be clear and easy to understand.

Responses: 150

Totally disagree 0% (0)

Disagree 1% (2)

Slightly disagree 0% (0)

Neither agree nor disagree 1% (1)

Slightly agree 13% (20)

Agree 40% (60)

Totally agree 45% (67)

29. The use of AI tools fits well with my current study habits.

Responses: 150

Totally disagree 0% (0)

Disagree 2% (3)

Slightly disagree 1% (2)

Neither agree nor disagree 1% (1)

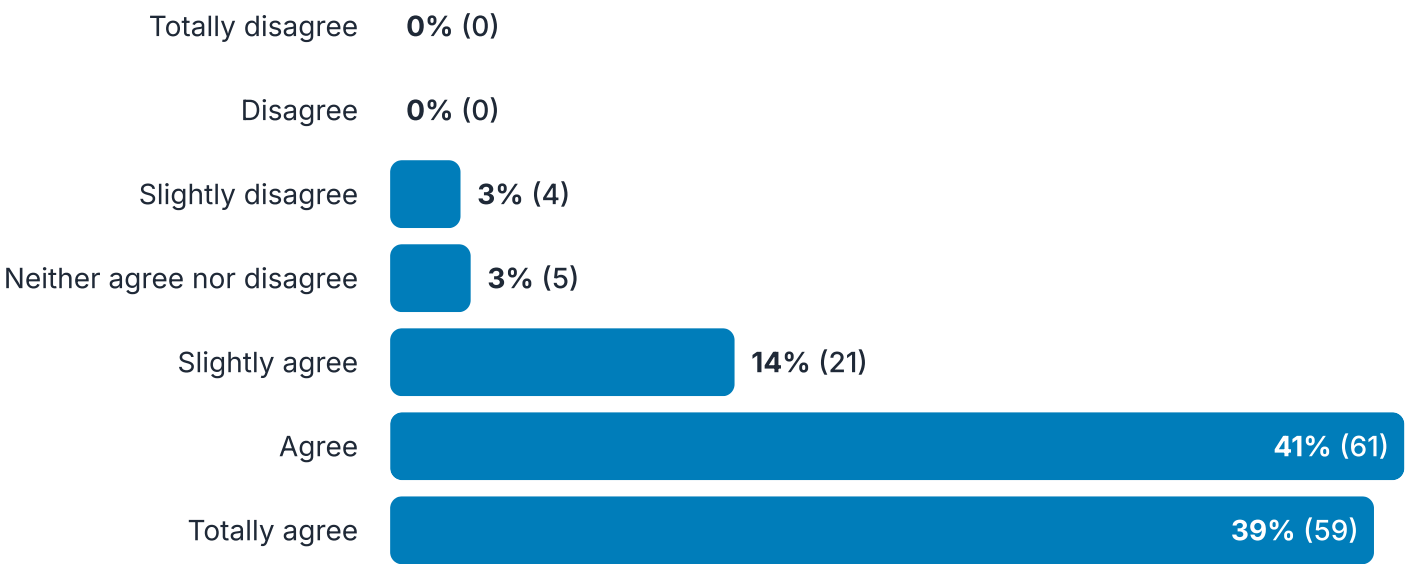
Slightly agree 10% (15)

Agree 41% (62)

Totally agree 45% (67)

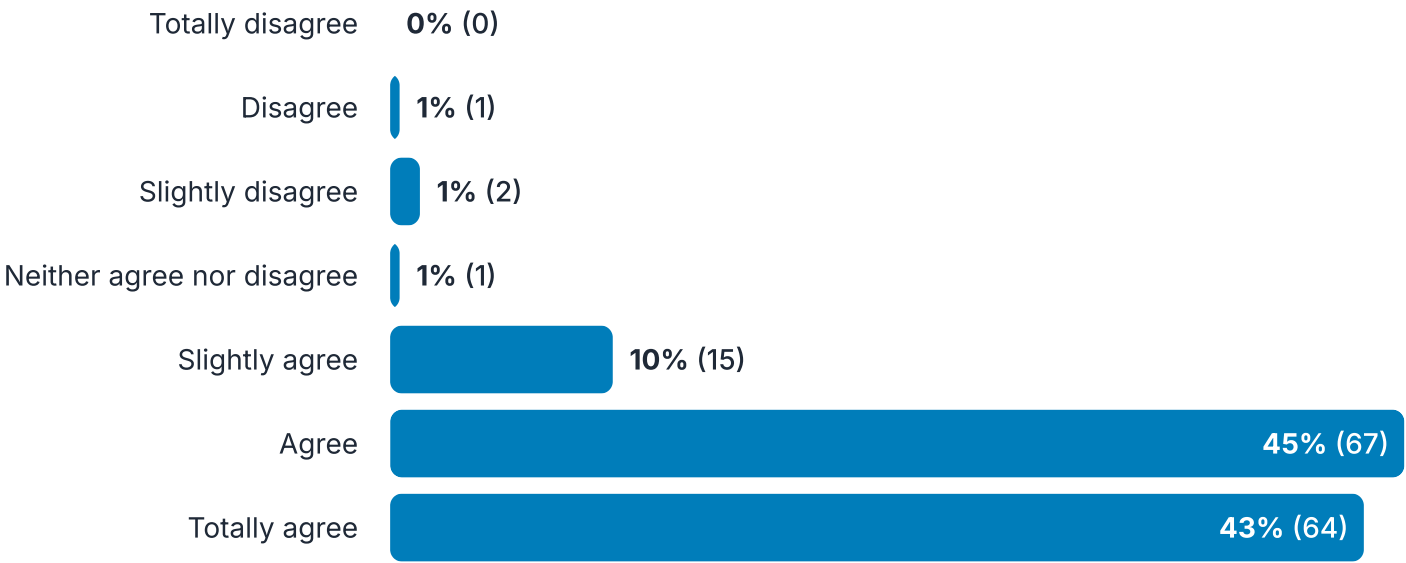
30. Most of my Classmates will be supportive of using AI technology for academic purposes.

Responses: 150



31. AI tools can improve my performance in assignments, exams, and projects.

Responses: 150



32. I think that AI technology is a flexible tool that can be used in various academic tasks.

Responses: 150



Slightly agree 10% (15)

Agree 41% (61)

Totally agree 47% (71)

33. I find it interesting to use AI technology to support my learning and academic growth.

Responses: 150

Totally disagree 0% (0)

Disagree 1% (1)

Slightly disagree 1% (1)

Neither agree nor disagree 1% (2)

Slightly agree 11% (17)

Agree 40% (60)

Totally agree 46% (69)

34. I have the intention to use AI technology when necessary to support my studies.

Responses: 150

Totally disagree 0% (0)

Disagree 0% (0)

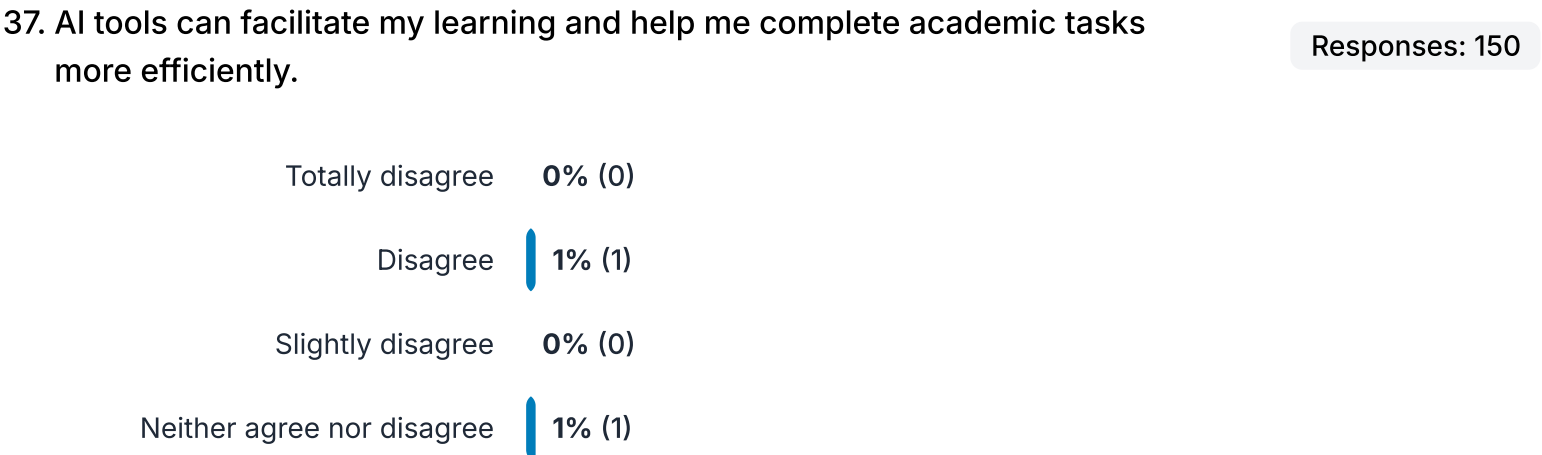
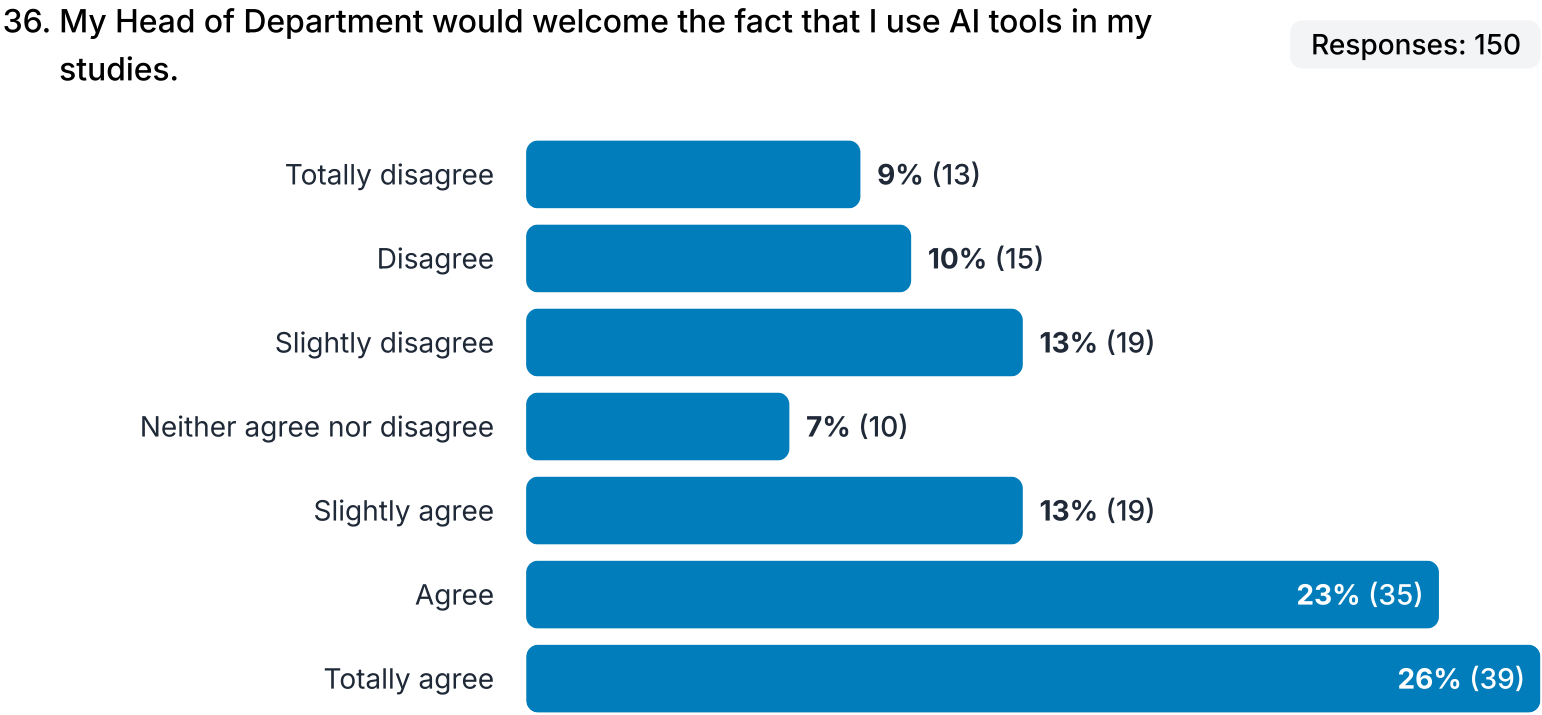
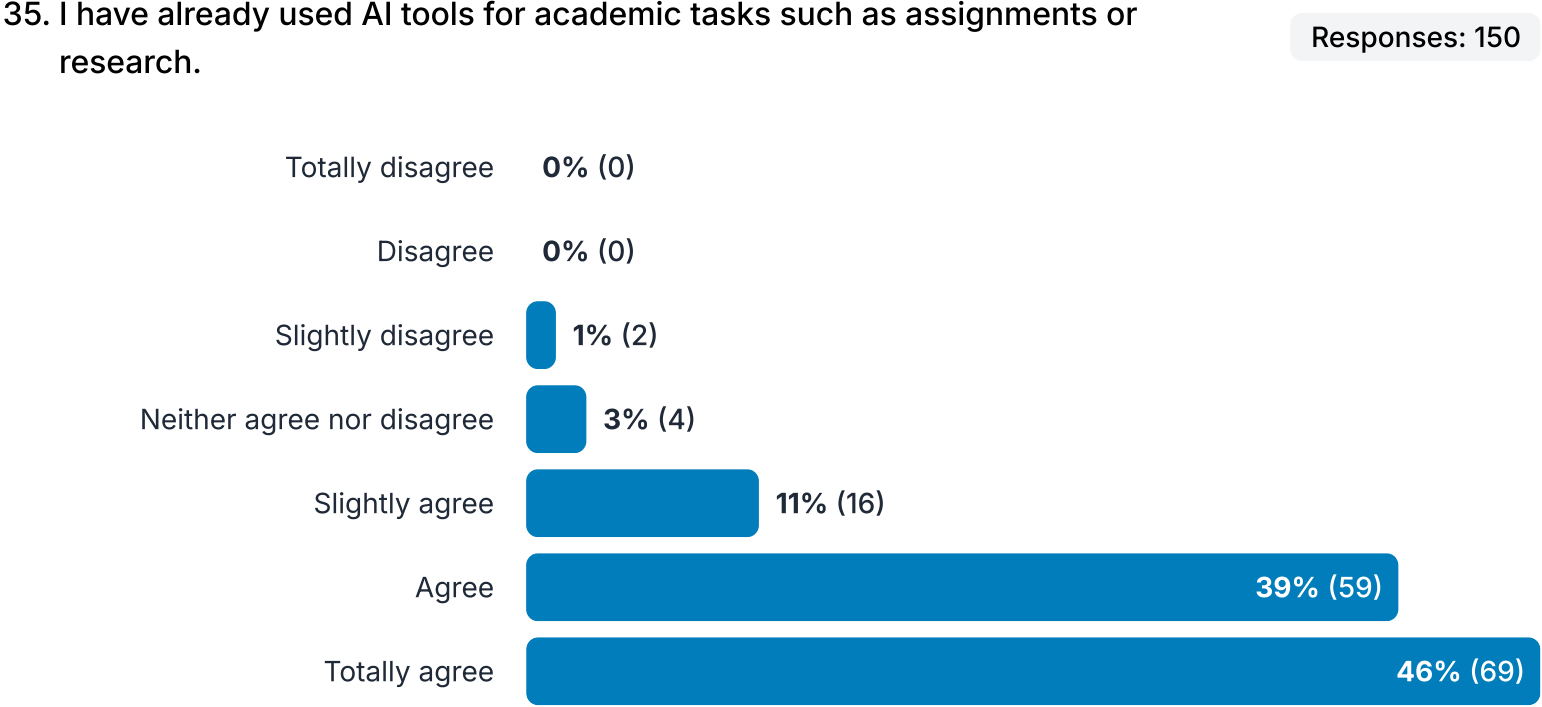
Slightly disagree 1% (1)

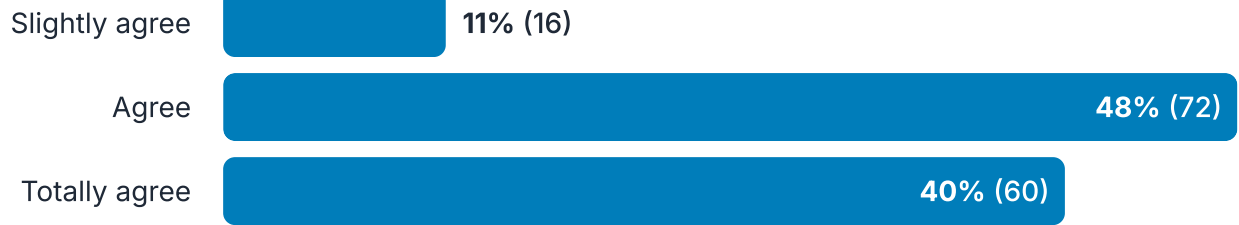
Neither agree nor disagree 2% (3)

Slightly agree 11% (17)

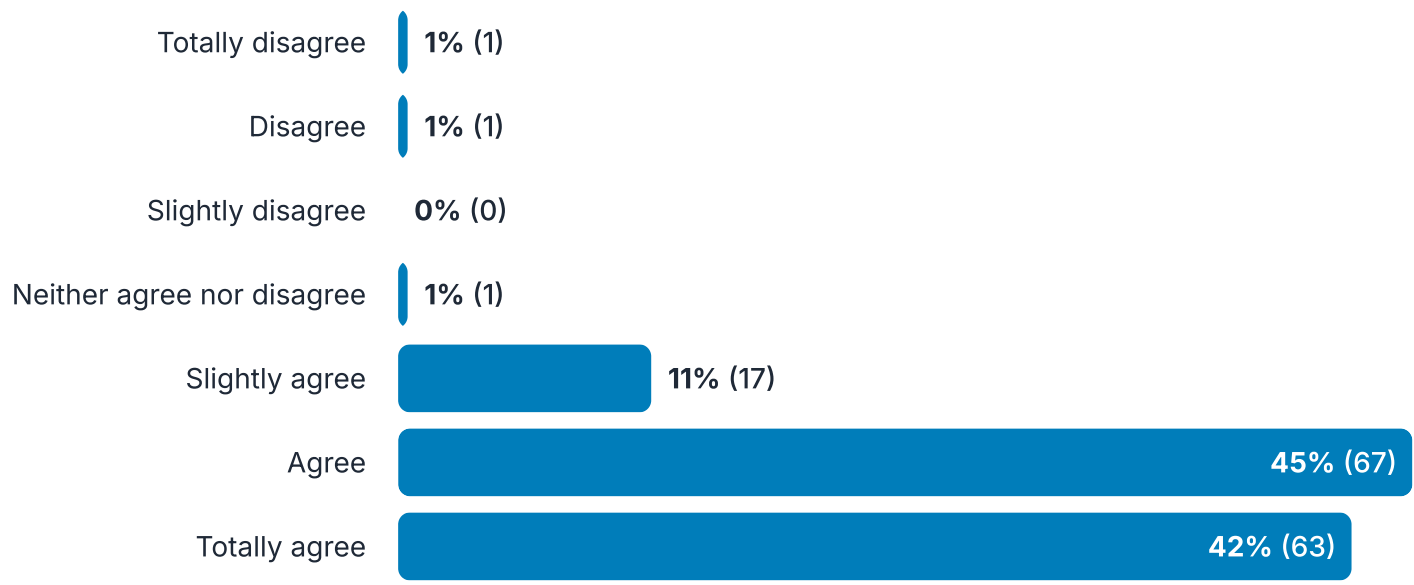
Agree 45% (67)

Totally agree 41% (62)

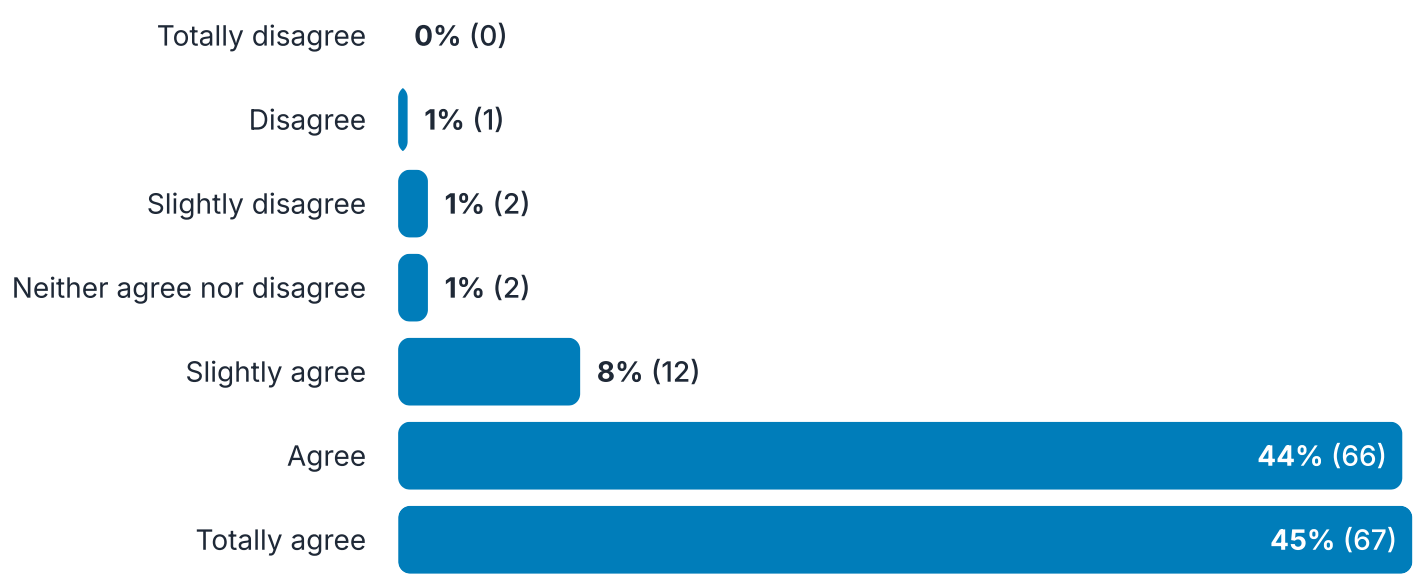




38. The use of AI technology may promote better academic practices and learning strategies. Responses: 150

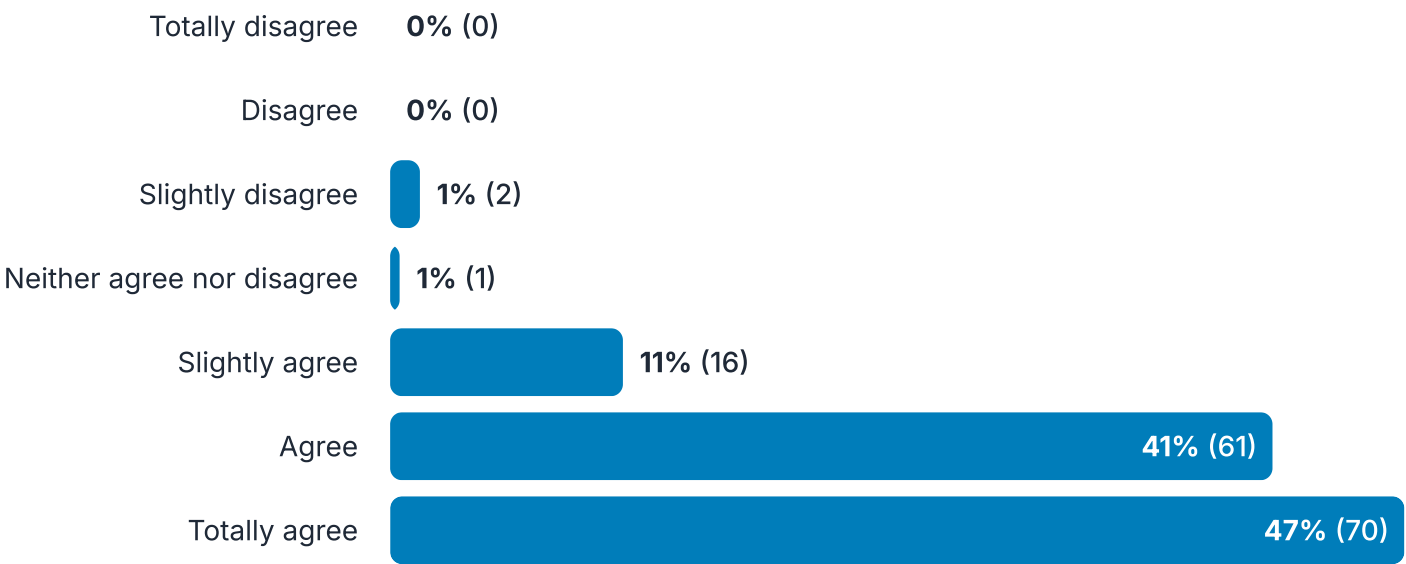


39. The use of AI tools is beneficial for my academic performance. Responses: 150



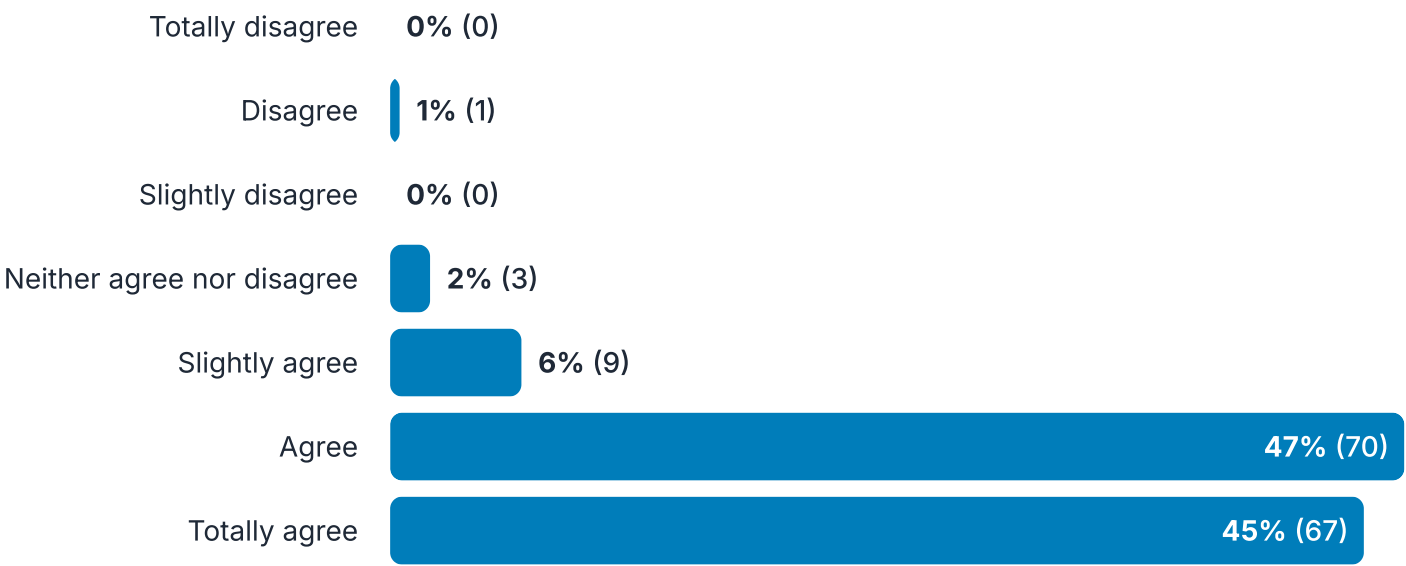
40. I think I will find it easy to acquire the necessary skills to use AI technology effectively.

Responses: 150



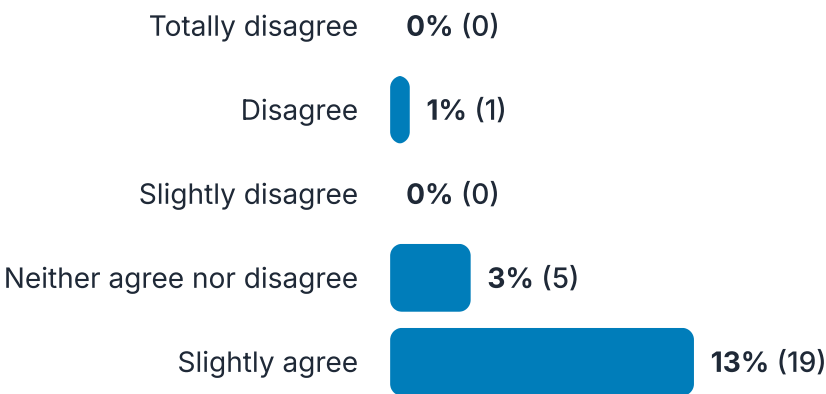
41. I will use AI tools if I receive appropriate training on how to use them.

Responses: 150



42. Other students would welcome the fact that I use AI tools in my studies.

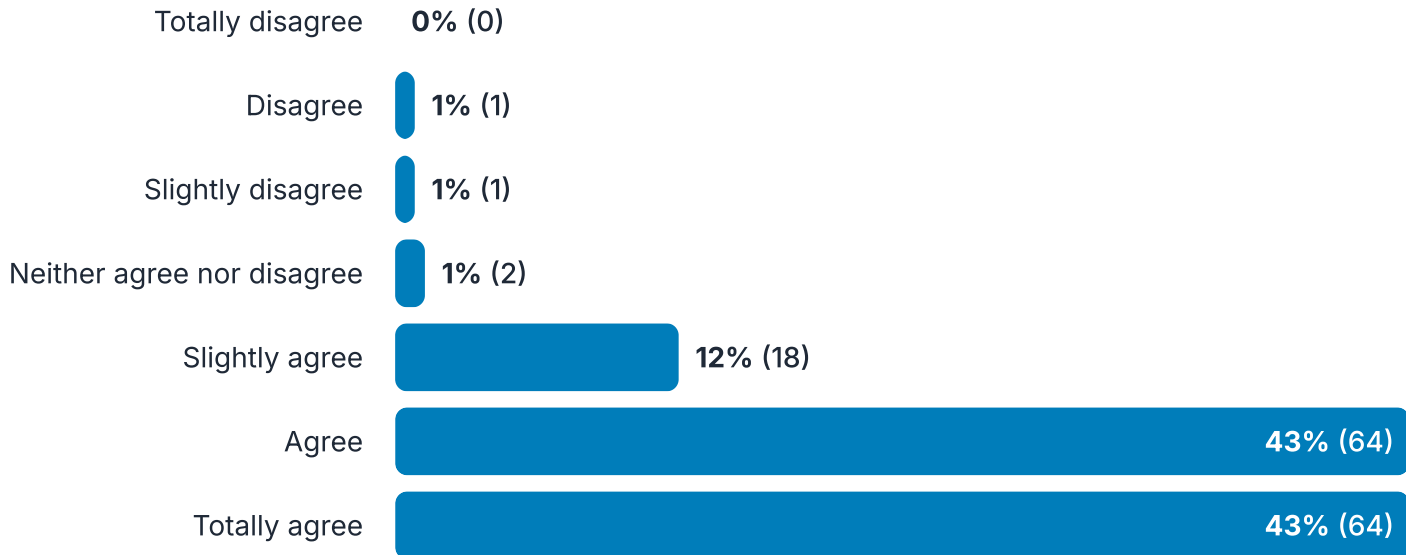
Responses: 150





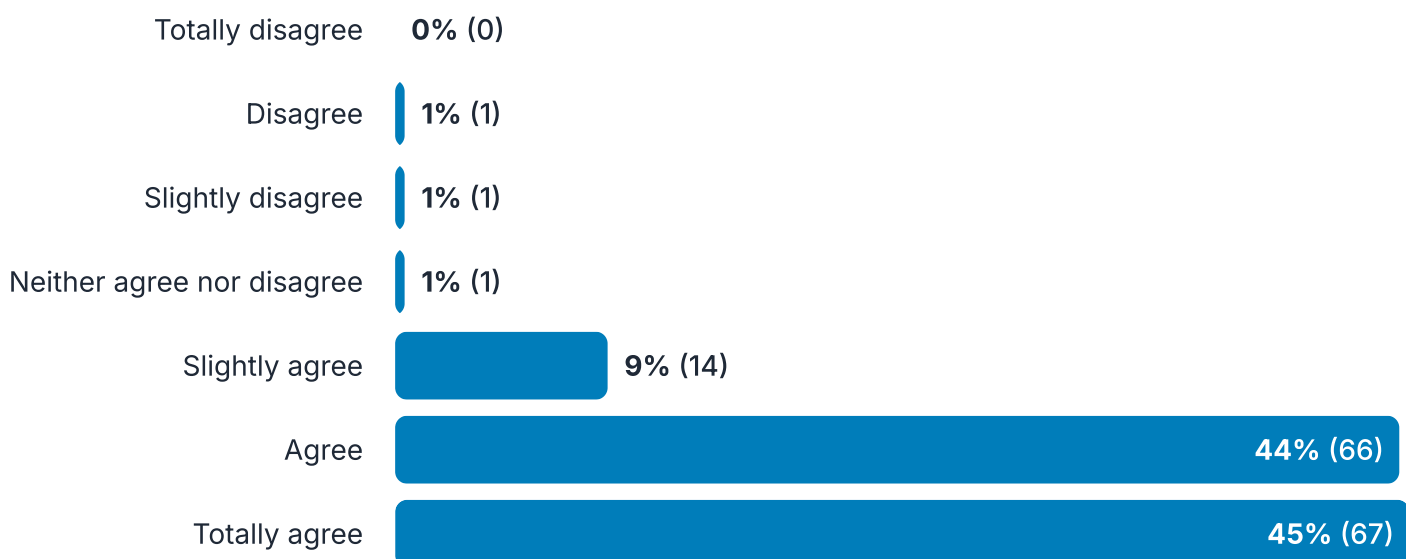
43. In general, AI tools may be useful to improve my academic work and performance.

Responses: 150



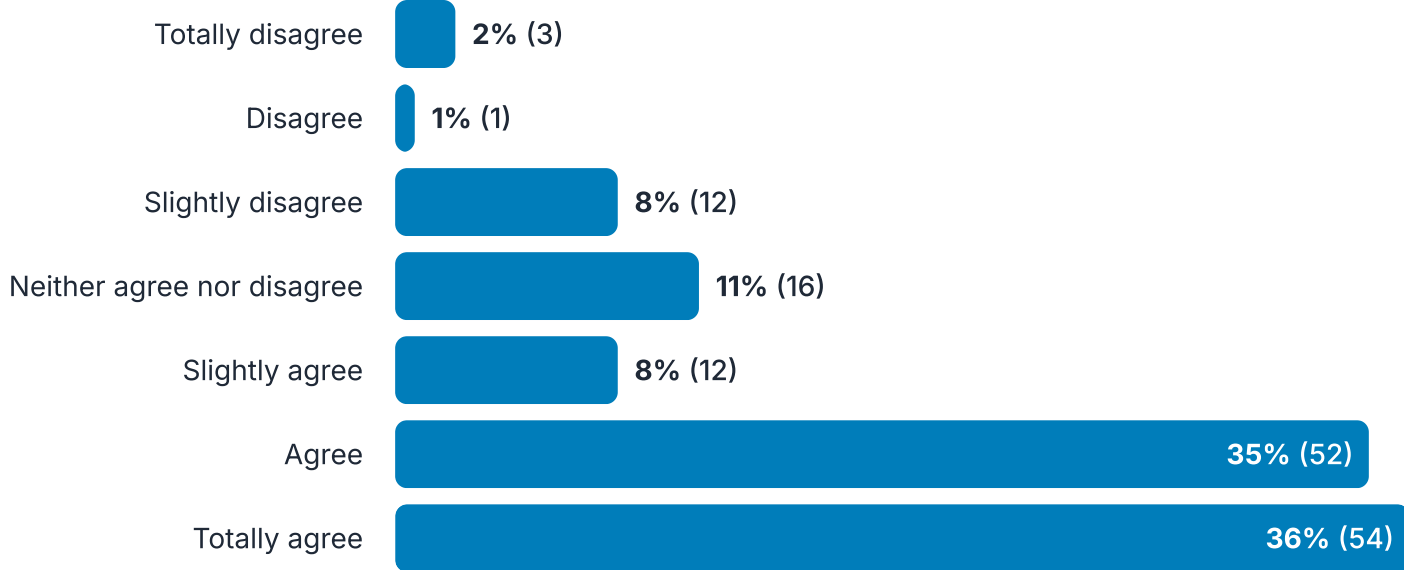
44. I have the intention to use AI technology routinely for my studies and academic tasks.

Responses: 150



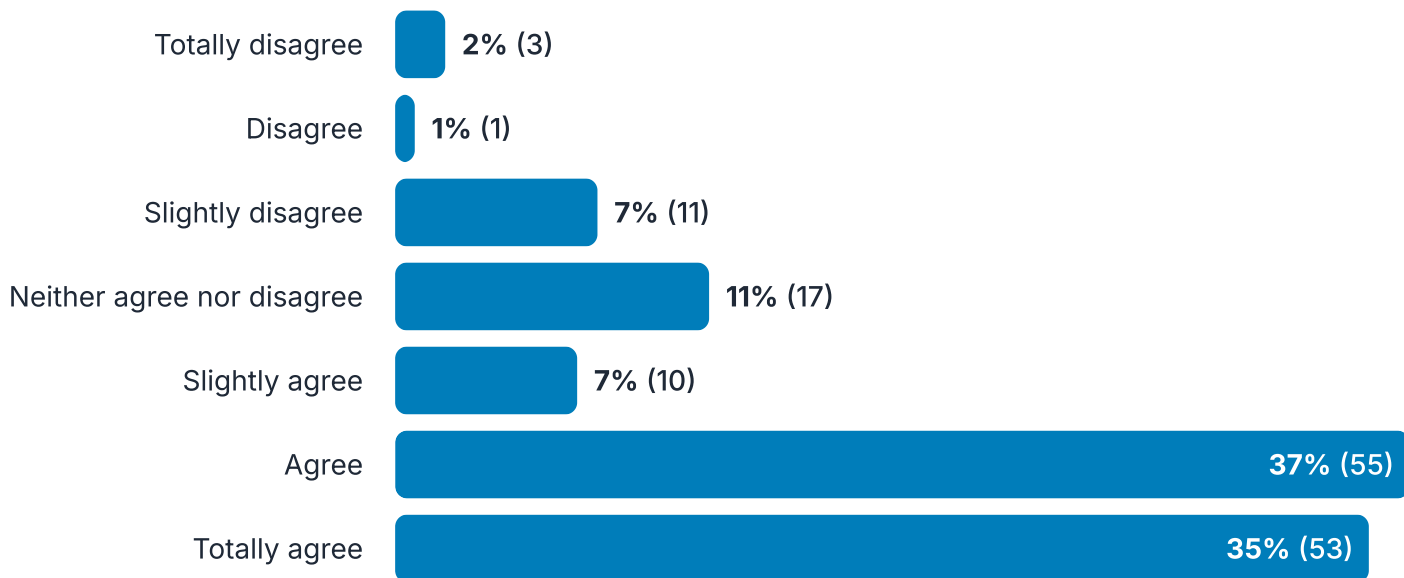
45. The use of AI technology may interfere with traditional study methods and resources.

Responses: 150



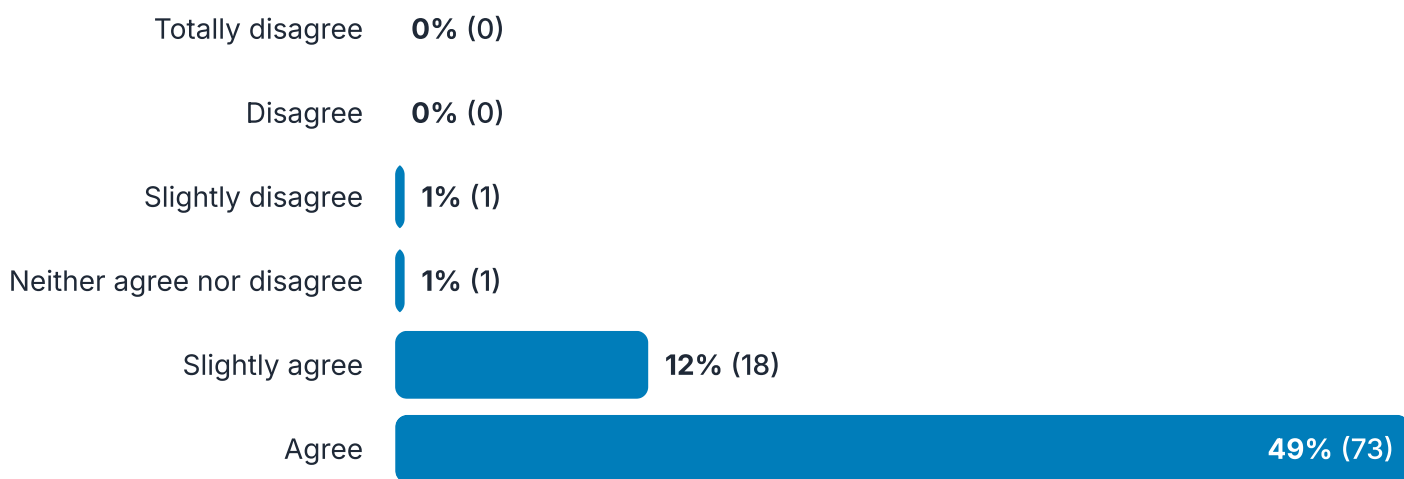
46. The use of AI technology may interfere with traditional study methods and resources.

Responses: 150



47. I think that AI technology will be easy to use for completing academic tasks.

Responses: 150



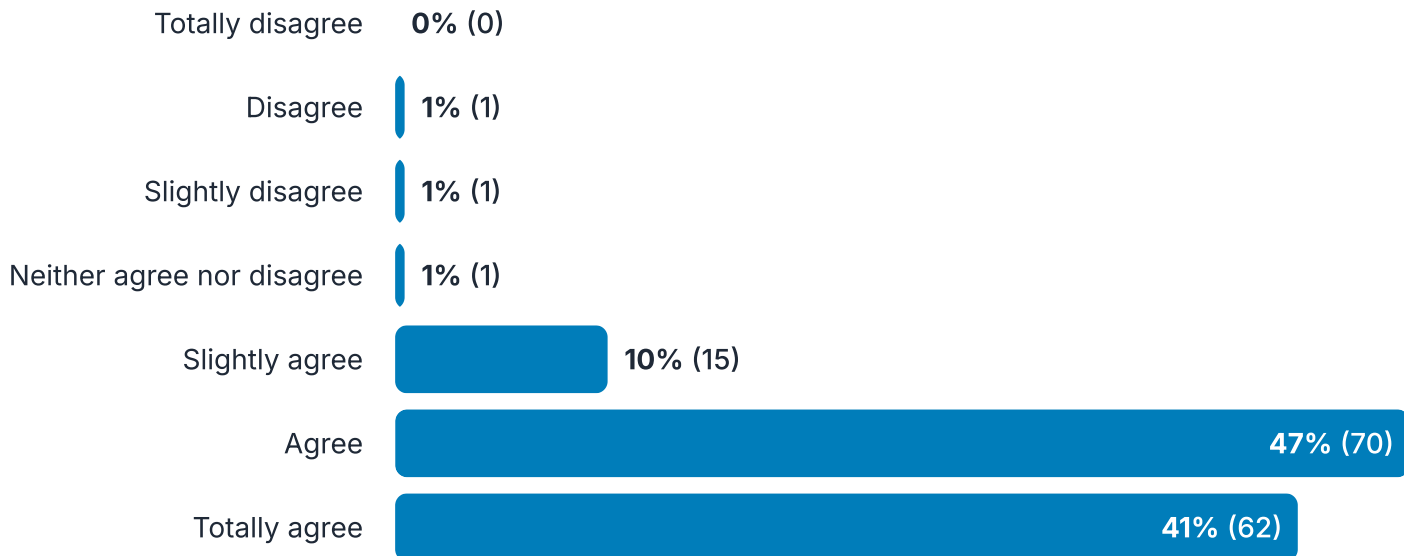


Totally agree

38% (57)

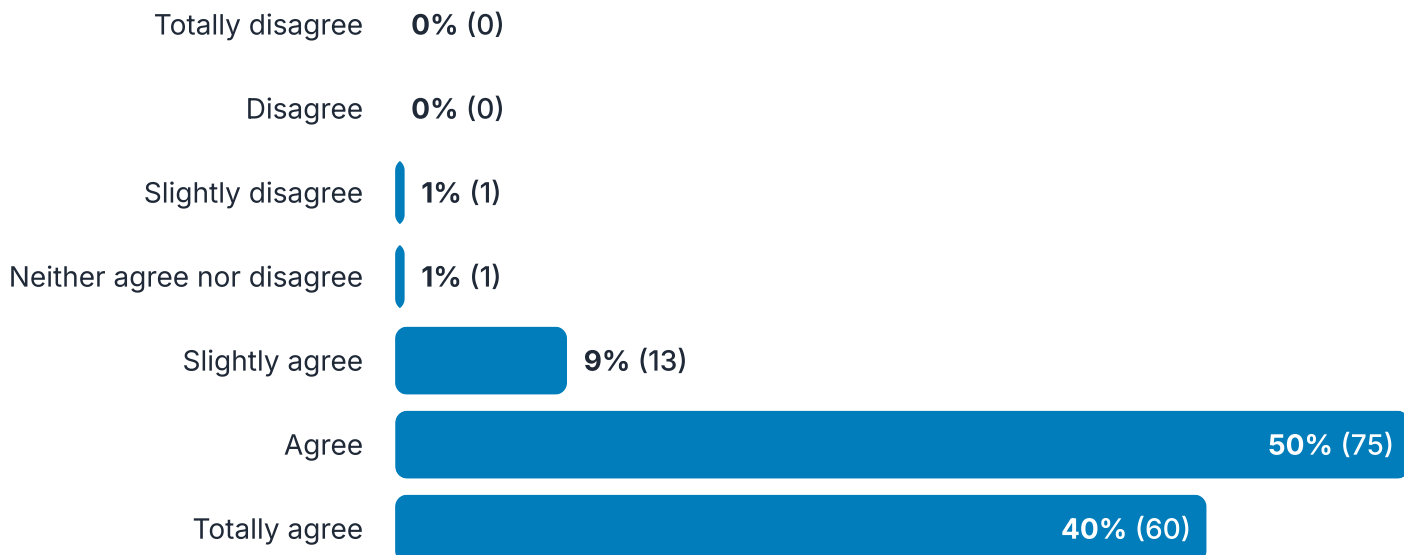
48. In my opinion, the use of AI tools will have a positive impact on my academic success.

Responses: 150



49. I will use AI technology if I receive the necessary technical support to do so.

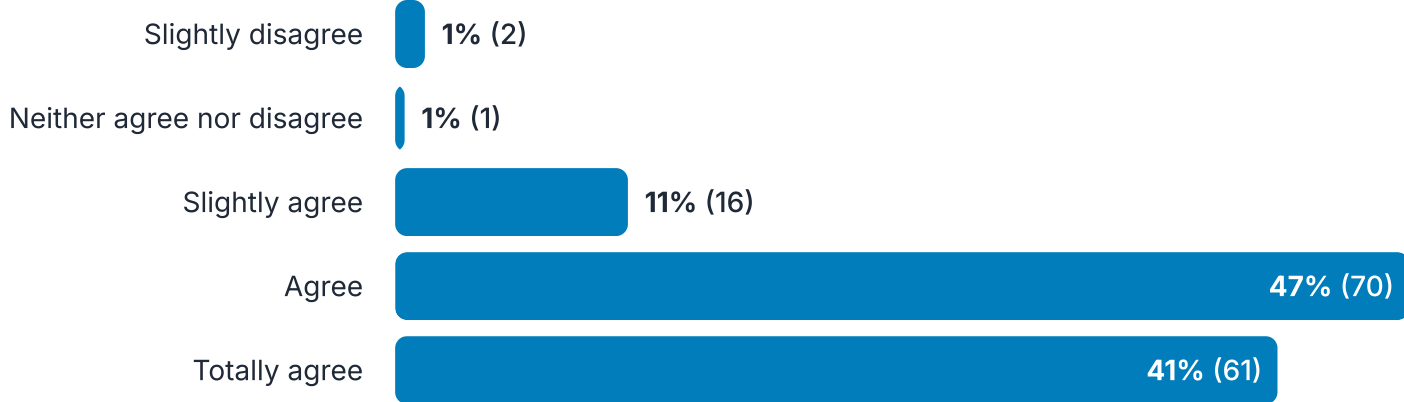
Responses: 150



50. I often use digital tools and software in my academic work.

Responses: 150

Totally disagree 0% (0)  
Disagree 0% (0)



51. What do you think are the broader benefits, challenges, or concerns associated with the use of AI in engineering education?

Responses: 150

- It helps engineers study vastly without restrictions.
- AI gives faster responses but makes the students lazy to make research and always depend on AI for their academic activities.
- AI reduces students workload by making it easier for them to get a faster response on their academic activities but it makes them to be low in research participation, since engineering is all about practical which needs the students to do more research before concluding on a question.
- AI helps in performing academic tasks easier but makes students less interested in using Goggle and in making research.
- AI helps in performing academic tasks easier but makes students less interested in using Goggle and in making research.
- AI might be easier but I don't support it in students using it more in academic tasks because students need to do research from different angles to be more versatile in Knowledge.
- AI reduces students workload by making it easier for them to get a faster response on their academic activities but it makes them to be low in research participation, since engineering is all about practical which needs the students to do more research before concluding on a question.
- AI makes the performance of academic tasks easier and reduces high work load.
- AI gives faster responses but makes the students lazy to make research and always depend on AI for their academic activities.
- AI is very helpful and gives faster responses but makes the students lazy to make research and always depend on AI for their academic activities.
- AI might be easier but I don't support it in students using it more in academic tasks because students need to do research from different angles to be more versatile in Knowledge.
- AI-powered simulations help students practice real-world engineering problems but Student data may be at risk of misuse.
- Automated grading systems save time for educators but AI tools and infrastructure require significant investment.

AI analyzes student performance to improve teaching methods but Over-reliance on AI may reduce teacher-student engagement.

AI reduces students workload by making it easier for them to get a faster response on their academic activities but it makes them to be low in research participation, since engineering is all about practical which needs the students to do more research before concluding on a question.

AI helps in performing academic tasks easier but makes students less interested in using Goggle and in making research.

AI gives faster responses but makes the students lazy to make research and always depend on AI for their academic activities.

Automated grading systems save time for educators but AI tools and infrastructure require significant investment.

AI reduces students workload by making it easier for them to get a faster response on their academic activities but it makes them to be low in research participation, since engineering is all about practical which needs the students to do more research before concluding on a question.

Students can gain a deeper understanding of engineering principles and develop problem-solving skills. Additionally, AI can provide personalized and adaptive learning experiences. Challenges: it's a risk that both students and educators could become overly dependent on technology. This dependence might reduce critical thinking and problem-solving skills, as students may rely too much on AI to provide answers and solutions.

AI efficiently analyze large datasets, extracting valuable insights to inform decision-making and identify opportunities for improvement but students can gain a deeper understanding of engineering principles and develop problem-solving skills. Additionally, AI can provide personalized and adaptive learning experiences. Challenges: This dependence might reduce critical thinking and problem-solving skills, as students may rely too much on AI to provide answers and solutions.

AI helps in performing academic tasks easier but makes students less interested in using Goggle, making research and using critical thinking skills to solve academic activities and workload.

The resources and that includes energy issues and also stable availability of internet .

It well makes learning a lot easier and also more interesting to learn with AI tools but the challenges are time and lean financial or no support from the Government to help institutions access these tools readily for students and thus must be addressed urgently .

AI tools need in enhancing education learning process can not be quantified ,they are numerous due to technological advancement around the globe .The challenges here are bordering on lean resources and zero conducive environment for applications of these tools ok our study pattern but with the availability of these resources would be Avery welcome idea amongst students .

I am already developing my AI knowledge because this is the future of Engineering and due to economic constraints and little resources and support from govt ,the availability of these tools are in existent now but with necessary support ,it would be a successful practice amongst the education sector and should be dealt with now .

AI use may hinder my creativity but it is very good for easy learning.

There are no available tools and this hinders students productivity and creativity as well, so if these tools are made available in the learning environment will go a long way to aid student performance generally as regards studies .

Due to that I have been conversant with these tools based on my course of study ,I know it's over helpful but due to the lack of resources and means for students to acquire these tools ,it's not yet popular as it should be and if these are made available students will benefit immensely from the innovative learning the Ai tools offer

From the lean resources to the time but my little use of AI tools have been far more beneficial than traditional means if learning. If I can afford it ,would love to use it more often

There are not enough time and resources to have these tools available for students and if provide is the best form of learning as a global practice now.

Unavailable resources and zero support from school leadership .

If the tools are readily available students will Tap into the great potentials ,it has to offer to the educational system .

Let it be made available ,everyone knows the importance that Ai brought to the academic work and learning globally .

I recommend that more awareness be made on the importance and then provision of these tools readily for use and support to countries in Africa to tap in and maximise the full potentials therein.

We know the importance but are these tools readily available for use easily here ? No they are not but if they are made easily accessible to students will be well appreciated and put to good use too.

We don't have the resources but if we do have them to aid our study ,we will show the world what Ai is capable of in different ways.

It is not popular around as such due to many challenges but if there are more aware was and ready support ,the students will excel better using these tools.

I don't really have issues with it and believe if students have access to the tools easily they will love to use it and do more.

I believe if popular students and the education world will tap into it and get the best out of it .

If they are available will be in use and more efficient learning too .

It is the best form of learning now but not available easily in these climes .

They are not popular yet but withore awareness and availability students will make better use of their time to develop more

The idea of AI tools was to ease studies and research in the first place but because it's not available yet around ,we still do traditional means for.learning here

If we have the resources ,we can do better amount of productive innovations.

It will help students in many positive forma and should be made available resources for this to be actualised or we won't meet up globally.

They are many advantages but we have zero support resources over here .

I have seen various wonders of using these tools in a good way and I believe that if made available will help the academic world here.

We have to make it popular amongst the students and them make its available the resources and time to learn more in it

I can attest that these tools have helped all over the world in research leading to good innovations but they are not available for use in our climes ,if available will help the education here.

I don't know about that

They are not readily used here or popular but with awareness and also available resources will lead the educational sector

The benefits can't be over emphasised because if the innovations and development it's already bringing to the world at large but we don't have the resources for them to be applied here everyday learning and if they are made available or easier to achieve we can do better .

AI has so many benefits that can be summarised in the speed at which it generates study materials. The only challenge is that it costs data.

Potential over-reliance on AI for decision-making. Provides insights into student performance trends.

Benefits: It give massive input in academic learning Challenges: It is costly Concern: It will waterdown the urge for research

Benefits: it is easier to use Challenges: it is not easily accessible like getting a book Concerns: It will outcompete the reading traditional method of learning

Benefits include that it makes research easier. Challenges include that it takes away the learners creativity.

It help for better understanding of the research work It requires subscription which some students can't afford It will greatly affect the habit of reading

One benefit is Reduces time spent on repetitive tasks.

The challenges is since AI is an Algorithm created by man, it is not sufficient enough because atimes there could be what code error which will insinuate malfunctioning.

Ethical considerations in AI usage. Plagiarism is a serious concern as well as lack of originality.

The benefits is that it makes studying in the field of engineering easier because one can consult it at any given time .

One can do many things within a short time

The benefit are it helps students in carrying out their practical reports and projects And the challenges are that it ends to offer unreliable information

It helps students in their report practicals though the answers might not be trusted

It reduces creativity

It helps engineering students in their project work and defense research

Supports complex problem-solving skills , meanwhile one challenge is technical difficulties and troubleshooting.

Helps engineering in the project and project defense

Since Engineering is a broad field of study I think the benefits includes Making it easier for every student to be following in the lecturing since one can decide to study online by using Ai tools

The cost of subscription is not affordable

Challenges include Ensuring AI tools align with curriculum standards as well as the limited availability of AI-trained educators. The major benefits are expedited research ability.

Helps students in their assignments and project Challenges might involve poor network connection

Ai can tailor educational experiences to individual students' learning styles, pacing, and needs. This customization can enhance comprehension and retention of complex engineering concepts.

It's biaseness of result

Helps students in their research works and assignments

Helps students in their studies and serves as a reading companion

Helps students in their academic pursuit

Benefits Facilitates data-driven decision-making. Challenges Difficulty balancing AI integration with traditional teaching methods.

Challenges is that it is going to change the traditional way of studying which is going to the library, reading printed texts etc

Helps students in their practical reports and project research

One of the benefit is that it makes learning easier and fun

Helps students in their research project

It improves accuracy

Supports students in their academic life

Enhanced experience

Help's students in their experience and project research

Very costly to access

It improves personalization

Helps students in their studies

It helps in data analysis

Benefits students by providing academic response to their questions

Benefits of ai in education include expedited research processes as well as the degree of accuracy it brings to people's studies Challenges of AI use in education is that it discourages students from studying.

It helps students in engineering departments to carryout effectively their research projects

It helps reduce cost

Rigorous research will be difficult to carryout

Helps engineering students to carryout research projects and assignments efficiently

Helps engineering students to carryout research projects and assignments efficiently

It enhanced decision making

Helps engineering students to carryout research projects and assignments efficiently

Helps engineering students to carryout research projects and assignments efficiently

AI is important as it helps learners get information on a wide range of content. It is challenging because it hinders creativity.

Helps engineering students to carryout research projects and assignments effectively

It improved safety

AI in engineering education has many benefits, but it also comes with challenges and concerns. Let me break it down in a simple way: Benefits 1. Easy Learning – AI can help students understand difficult engineering topics by explaining them in simpler ways, like a personal tutor. 2. Practice Anytime – With AI tools, students can practice coding, design, or calculations anytime, even without a lecturer present. 3. Faster Problem-Solving – AI can analyze data and give quick solutions, helping students learn how to solve real-world problems faster. 4. Personalized Learning – Some students understand fast, while others need more time. AI can adjust lessons to fit each student's learning speed. Challenges 1. High Cost – Many AI-powered tools and software are expensive, and not all students or schools can afford them. 2. Less Human Interaction – If students depend too much on AI, they may lose the ability to discuss and solve problems with people. 3. Dependence on Electricity & Internet – AI tools need a good internet connection and stable power, which can be a problem in some areas. Concerns 1. Wrong Information – AI is not perfect; sometimes, it gives incorrect answers, which can mislead students. 2. Job Loss for Lecturers? – Some people fear that AI might replace teachers, but in reality, it should be used to support, not replace, them. 3. Data Privacy – AI collects and stores a lot of data. If not handled well, student information may be at risk. In summary, AI is a great tool for engineering education.

It enhance academic work

Extremely beneficial for my studies as it helps me get data for research and other learning materials. The major challenge I face is high cost of AI subscription.

AI has made studying easier for me. The challenge I face is that it is expensive.

With AI you can easily multitask and gather several materials at the same time. The major challenge is cost of subscription.

It increased efficiency

It improves safety

Improves accuracy

The challenges is the soon enough people will stop doing the normal way of studying which includes going to places to make research.

AI is helpful in carrying out assignments and research of any topic. it is a perfect aid to learning.

AI makes the world to run easier and will make learning in Engineering field less stressful

AI provides learners with tools for carrying out several school related tasks. however, some of the challenges include cost of subscription and it's negative effect on student's creativity

The benefit of AI can be summarized in how it helps hasten up my research work and assignments. Unfortunately, it requires mobile data which is expensive.

AI has revolutionalised learning and has helped students gather information more easily.

Benefit is that it has made information generation easy Challenge is that it has reduced students ability to think critically

Helps engineering students to carryout research projects and assignments efficiently

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Helps engineering students to carryout research projects and assignments efficiently

It is difficult to access AI tools efficiently because of subscription cost

It helps students in their practical reports for a good academic experience

Helps students in their practical reports fit a good academic experience

Helps students in their practical reports fit a good academic experience

Creativity among students will be watered down



Helps students in their practical reports fit a good academic experience

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The use of AI in engineering education offers significant **benefits**, including personalized learning, automation of administrative tasks, simulation-based training, enhanced problem-solving skills, improved accessibility, and industry-relevant education. However, it also presents **challenges** such as high costs, lack of AI literacy among educators, over-reliance on technology, ethical biases, data privacy risks, and difficulties in standardization. Key **concerns** include job displacement fears, reduced human interaction, and widening equity gaps. While AI has the potential to revolutionize engineering education, addressing these challenges is essential for its effective and ethical integration.

It causes laziness among students

Students will develop sluggish attitudes towards their studies

It provides information from different sources

In research writing, AI will make students to write the same things There will be no intellectual abilities and urge for rigorous research work

Benefits.... AI Provides real-time feedback to students. It also Promotes innovation in teaching methods. Challenges High initial implementation costs and requires continuous maintenance and updates.

Offers virtual tutoring and support and improves access to educational materials. Challenges are rooted in the loss of originality in learners' thinking

Challenges include risk of reducing human interaction in education as well as data privacy and security concerns. The benefit is enhanced productivity.

AI Enhances personalized learning experiences. Challenges are that there are potential bias in AI algorithms.

Efficiently analyze large datasets, extracting valuable insights to inform decision-making and identify opportunities for improvement but students can gain a deeper understanding of engineering principles and develop problem-solving skills. Additionally, AI can provide personalized and adaptive learning experiences. Challenges: This dependence might reduce critical thinking and problem-solving skills, as students may rely too much on AI to provide answers and solutions.

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