

## Has relying on tech affected the way we learn?

### 1 Warmer

#### a. Discuss the questions.

1. For what daily tasks and activities do you rely on technology?
2. What examples do you predict to find in the article of tech making us more stupid?
3. How do you think our use of technology has affected **how we learn and remember** new things?
4. Do you think there should be limits to what technology can be used for? Give examples to support your opinion.
5. Do you think the consequences of our tech habits are overall more positive or negative?

### 2 Find the information

#### a. Skim the article to find different words or ideas that support the title of the article.

### 3 Key words

#### a. Read the definitions and find key words in the article that match them. The paragraph number is given in brackets to help you.

Check your answers and your understanding of how the words are used by using the same word to complete the example sentence immediately after each definition.

Then read the complete article to see how each of the key words is used in context.

1. gradually reduce the strength or importance of something (subtitle) \_\_\_\_\_  
*His popularity was gradually **eroded** \_\_\_\_\_ by rumours that spread through the office.*
2. something that makes it more difficult for someone to do something or more difficult for something to happen (paragraph 2) \_\_\_\_\_  
*The rising cost of fuel was an **impediment** \_\_\_\_\_ to the success of their logistics business.*
3. a way of saving time or effort in doing something, often a method that produces a result that is not good enough (paragraph 2) \_\_\_\_\_  
*We had a presentation the next day, so we thought we could reuse old slides as a **shortcut** \_\_\_\_\_, but our plan backfired.*

4. remember ideas or information (paragraph 2) \_\_\_\_\_

*The test showed that the group of students only retained 30% of the information they had read the previous week.*

5. a time when an important change takes place in a situation, especially one that makes it better (two words, paragraph 5) \_\_\_\_\_

*The invention of Intel's Pentium M microchip was an inflection point in tech history.*

6. hard, boring work (two words, paragraph 5) \_\_\_\_\_

*My first year as an intern, I had to do all the grunt work and received none of the credit.*  
gopher = go fer

7. avoid accepting or dealing with something that you should do (paragraph 5)

\_\_\_\_\_

*The warehouse team barely evaded disaster after a severe snowstorm hit the area.*  
avoid

8. learn something thoroughly so that you know it or can do it very well (paragraph 7)

\_\_\_\_\_

*Even after a year of using the new design software, Phoebe felt like she had still not mastered it.*

9. a period of time between two events (paragraph 8) \_\_\_\_\_

*It is important to step away from your desk and stretch at regular intervals throughout the day.*

10. a set of rules for solving problems or doing calculations, especially rules that a computer uses (paragraph 8) \_\_\_\_\_

*There is some concern that algorithms might increase discrimination if they are not correctly and inclusively programmed.*

11. add something to something else to make it bigger or more satisfactory (two words, paragraph 9)

\_\_\_\_\_

*They wanted to bulk out \_\_\_\_\_ their product offer by making the bags available in three more colours.*

12. a situation that involves a lot of risk or serious consequences (two words, paragraph 9)

\_\_\_\_\_

*They have scheduled a high stakes \_\_\_\_\_ meeting to examine our tax compliance.*

## Has relying on tech made us more stupid?

LEARNING TOO HEAVILY ON ARTIFICIAL INTELLIGENCE CAN ERODE OUR TOLERANCE FOR THE REPETITIVE ACTIONS THAT HELP US ACTUALLY LEARN

DAVE LEE

- 1 I was driving home from Palo Alto to San Francisco, a journey I'd done dozens upon dozens of times before. Only this time, I faced a problem: a phone without power; a journey without GPS. I missed my exit and became hopelessly lost in streets less than a mile from my home. How embarrassing: I claim to love this city, and yet in that moment I felt I barely knew it. Suddenly deprived of my tech, I was unable to find my way, because I had never needed to actually learn it.
- 2 I'm not arguing against the use of GPS. But I bring it up to demonstrate that efficient technology can be an impediment to learning. Only through effort and repetition, without shortcuts, can we truly retain useful knowledge.
- 3 Much has been written about GPT-3, one of the world's most advanced artificial intelligence systems. It can do things that would have been considered science fiction just a few years ago, such as generate realistic-sounding articles, or translate between languages it has never seen before. It does so by learning from a vast amount of text, and then making predictions based on that data.
- 4 (It also wrote that last paragraph, using just the prompt "much has been written about GPT-3". I'd like to think I would never stoop to using that writing cliché, "like science fiction".)
- 5 This kind of AI-generated text is creating waves in academia. It's an inflection point from which we should be careful in how we proceed. A recent Vice article detailed how a community of students was using GPT-3 (and other similar AI text programs) to do the grunt work in writing essays, filling in context and saving time. Because the AI-generated text was "unique", it allowed students to evade anti-plagiarism detection software. "I just use AI to handle the things I don't want to do or find meaningless," said one student.
- 6 Is the student cheating? You could argue convincingly in either direction. It's maybe simpler to ask whether the student is cheating themselves, to which the answer is surely yes. Those things students don't want to do are what underpin retention. Writing, rethinking, retaining, over and over.
- 7 Practice makes perfect. We've all heard of the "10,000 hours rule" – the amount of intensive practice supposedly needed to master something – but we have many ways to make the same point: repetition means remembering. Remembering means learning and mastering.
- 8 Hermann Ebbinghaus, a psychologist who studied the benefits of repetition, illustrated this with his "forgetting curve" – demonstrating how knowledge escapes over time if not consciously remembered – and "spaced learning", repetition over regular intervals. His work has influenced how we learn for more than a century. It's the difference between becoming an expert and merely passing a test. Does a student deserve an "A" grade if the algorithm does the legwork? He or she becomes no more aware of the subject than I was of my direction home.
- 9 Besides, experts in the capabilities of today's AI warn against it in a blunter sense. Nathan Baschez, creator of Lex. Page, a word processing system that can be used to summon GPT-3 to bulk out your sentences, told me it should be used with great caution in "high stakes" environments like journalism or academia.
- 10 "GPT-3 can just make up facts that aren't true and say other things that are nonsense," he said. But it'll only get better. It's always learning. Are we?

FT

Dave Lee, 22 November, 2022.

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## 4 Understanding the article

a. Choose the best way to complete each sentence according to the article. Underline the information that you used to support your answer in the text.

1. Deprived of his GPS, the author ...  
☒ a. realised he had never had to learn his way home.  
b. decided to take a shortcut home.
2. Efficient technology ...  
a. can help us learn more easily.  
☒ b. can prevent us from learning.
3. The paragraph about GPT-3 was written ...  
a. after doing a lot of research online.  
☒ b. by artificial intelligence.
4. Students are cheating ...  
☒ a. themselves by using AI to write their papers.  
☒ b. and committing plagiarism with AI.
5. In order to remember something, we need to ...  
a. be prepared to forget it.  
☒ b. repeat it many times.
6. The Forgetting Curve is about forgetting things that ...  
☒ a. are not remembered and repeated at regular intervals.  
b. we have not mastered yet because we don't have time.
7. GPT-3 needs to be used with caution because ...  
a. you can unknowingly commit plagiarism.  
☒ b. not everything it says is true.

## 5 Business language

a. Find expressions in the text using the definitions below. The paragraph number has been given.

1. depend on — **lean on** — (two words, subtitle)
2. behave in the same bad way that someone else is behaving or do something bad in order to get what you want — **stoop to** — (two words, paragraph 4)
3. cause problems, usually by making suggestions or criticisms — **create waves** — (two words, paragraph 5)
4. used for saying that repeating an activity or doing it regularly makes you very good at it — **practice makes perfect** — (three words, paragraph 7)
5. do the tiring or boring work that you have to do as part of a job, for example collecting information from different places — **do the grunt work** — or — **do the legwork** — (four words, paragraph 5; three words)

b. Discuss the questions.

1. Do you think we lean too heavily on technology?
2. Who has been creating waves in the tech or business world recently?
3. Do you believe “practice makes perfect” is true? What is an example that shows this expression?
4. Are there people in your team or company that do the legwork without receiving credit or recognition?
5. Have you ever stooped to doing something you later regretted?

## 6 Discussion questions

a. Discuss these questions.

1. Do you think we ‘outsource our thinking’ to technology too much?
2. Should AI be off limits when it comes to studies and work? Who should set these limits?
3. How can we encourage younger people to become better at learning and wean themselves off technology?
4. After reading about how we learn, do you think tedious repetition is the correct way to teach?
5. Do you agree with the author that leaning too heavily on technology is making people stupid?

## 7 Wider business theme – AI and job automation

a. Look at the table below and answer the questions.

**SHARE OF TASKS THAT ARE SUSCEPTIBLE TO AUTOMATION**

High (70% – 100%)	Production Food service Transportation
Medium (30% – 70%)	Administrative Maintenance Construction Agriculture Personal care Protective Health support Sales Facilities care
Low (0% – 30%)	Health practitioners Legal Computer Science Management Education Social service Engineering Arts / Entertainment Business

(According to REPORT Automation and Artificial Intelligence: How machines are affecting people and places by Mark Muro, Robert Maxim, and Jacob Whiton, 24 January, 2019)

1. Does any of the information in the table surprise you? Why?
2. How is your sector ranked? Why do you think it is (not) susceptible to automation?
3. Which areas or tasks in your future job do you expect to be automated?
4. How can you prepare for such a future? What new skills might the workforce / your sector need to develop in order not to be made redundant?
5. What new opportunities might automation present in these different sectors?

b. Prepare a short presentation to convince your local government, industries, or organisations to invest in training to prepare workers for the future. Address the points below. Do more research to provide more evidence and support for your ideas.

- Explain how your job will be affected by automation.
- Explain what new skills people in your field will need to learn and how they can be developed.
- Describe new opportunities for individuals and organisations that should be embraced.

**Possible useful language:**

- *According to the report, it is likely that ... jobs will be automated.*
- *Since tasks such as ... can easily be executed by robots/computers/algorithms, ...*
- *The workforce for tasks like ... will always be humans given the fact that ...*
- *It is important to develop training programmes for workers in the ... sector to ...*
- *If we ..., we can ensure a bright future for all.*