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What's New in AT and AI?

A Beginners Guide to **AI in Education** for the bemused, perplexed or simply disinterested

A Beginner's Guide to AI in Education for the bemused, perplexed or simply disinterested

- **What is #AI?**
- **How can #AI support #Teaching and #Learning?**

  Lesson Planning, including adaptive teaching resources

  Data Management (including the work of #SENDCos)

  Marking and Assessment, including:

  Personalised and individualised interactive learning for children

  Not only assessment of knowledge, but assessment of needs
- **Accessibility**
- **#AI at Moon Hall**
- **#AI and Growing Up**
- **Some critical things to be aware of**

AI in Education

AI encourages cheating and shallow learning and reduces critical thinking

AI will replace teachers and teaching assistants

AI dehumanises learning

AI and ethics- privacy violations and misuse of personal data

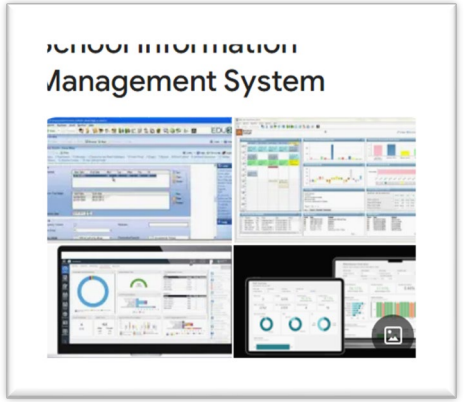
AI can exaggerate (digital) inequalities

Lack of transparency – bias – social manipulation

Encourages an overdependence on technology

What is #EdTech?

EdTech (a combination of "education" and "technology") refers to hardware and software designed to enhance teacher-led learning in classrooms and improve students' education outcomes.



Wordshark

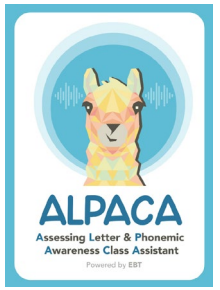
Numbershark

Nessy reading and spelling for home ages 6-11

moodle™

articulate 360

Sensory Readable



temporeading

What is #AI?

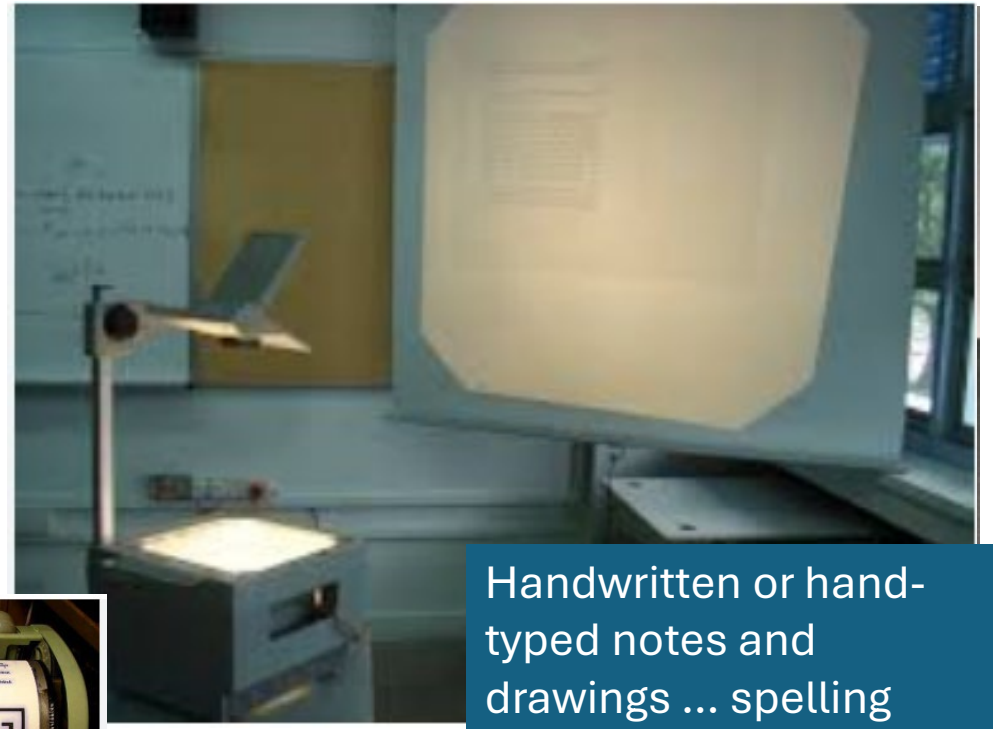
Artificial Intelligence can be described as giving computing systems the power and potential to re-create thinking tasks and processes normally ascribed only to human brains, such as:

- Understand and generate human language
- Learning from **data** to improve performance over time
- Recognise patterns in **data**, predict and infer, make decisions…
- Create new content, based on **data** it holds

Early 80s

Teacher prep for a project about William the Conqueror

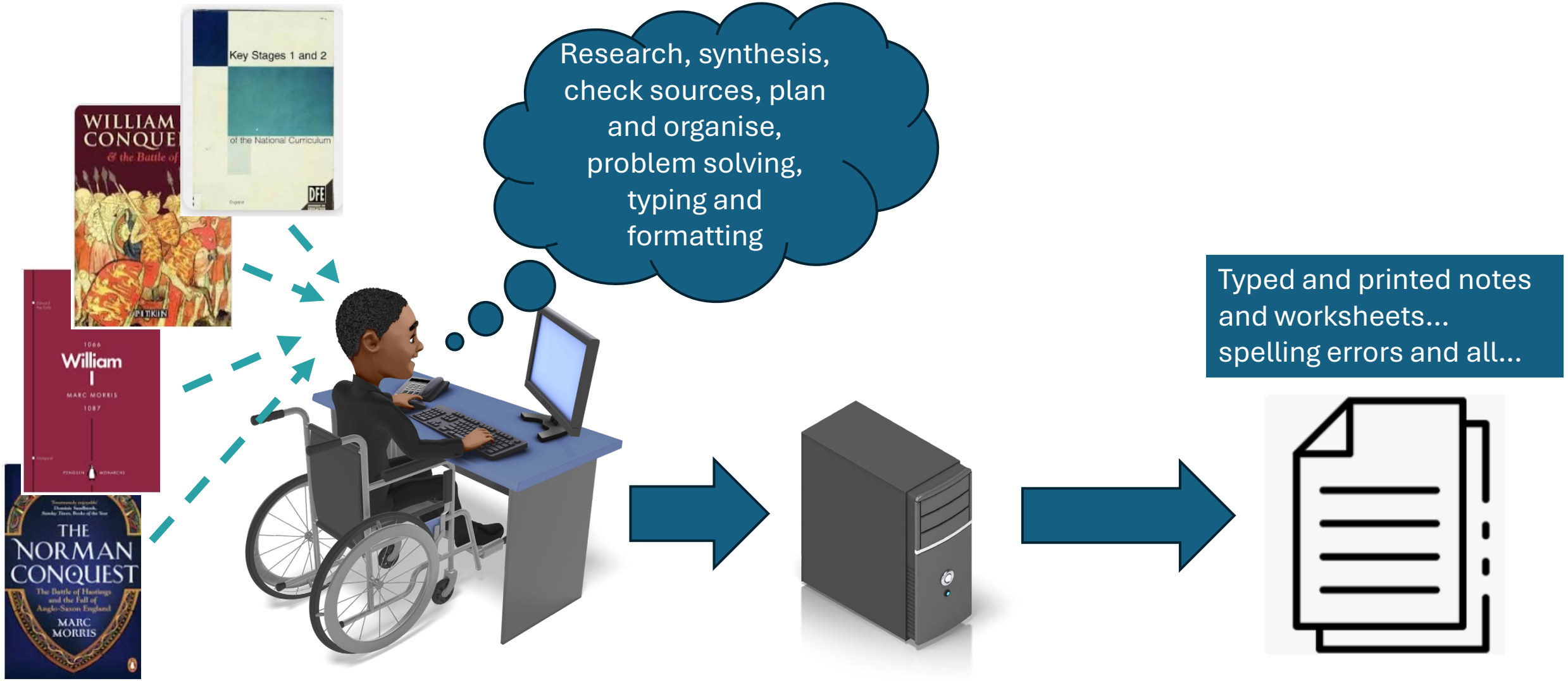
Research, synthesis, check sources, plan and organise, problem solving, typing and formatting



Handwritten or hand-typed notes and drawings … spelling errors and all…

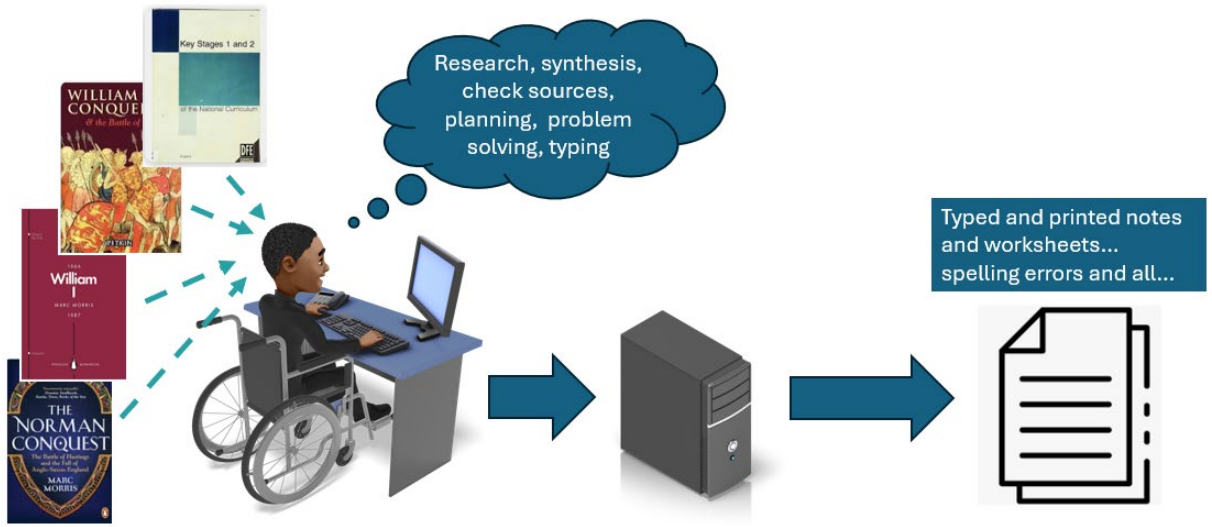
Mid- Late 80s

Teacher prep for a project about William the Conqueror



Mid-Late 80s

Teacher prep for a project about William the Conqueror



No AI explicitly for education yet

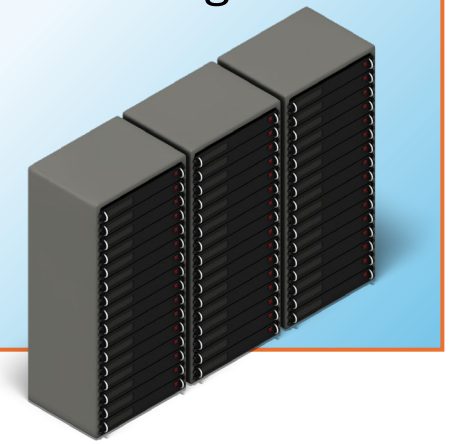
But...

Rapid developments in AI, with computers programmed to learn from their mistakes and make decisions.

Speech processing and recognition

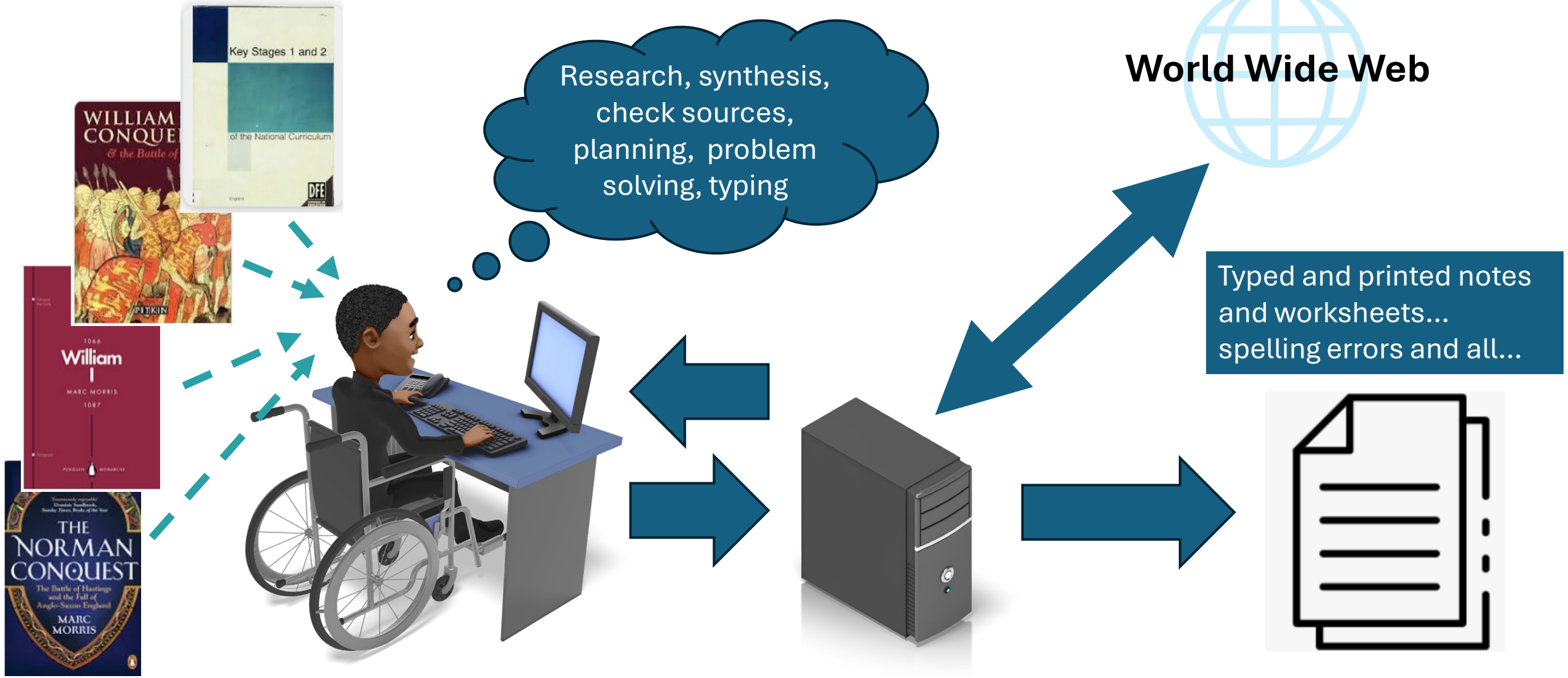
Lots of computing Power needed

Very expensive!



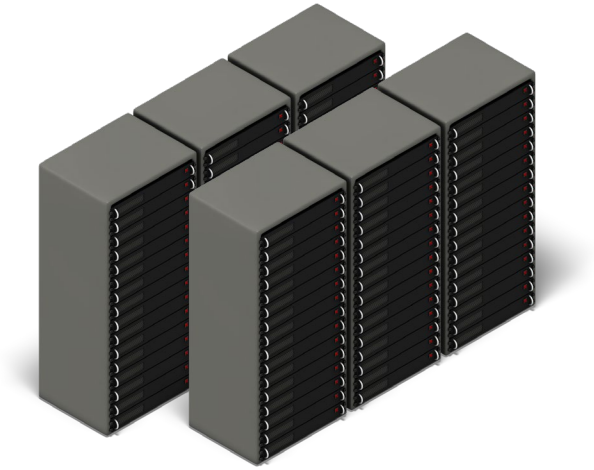
1990s

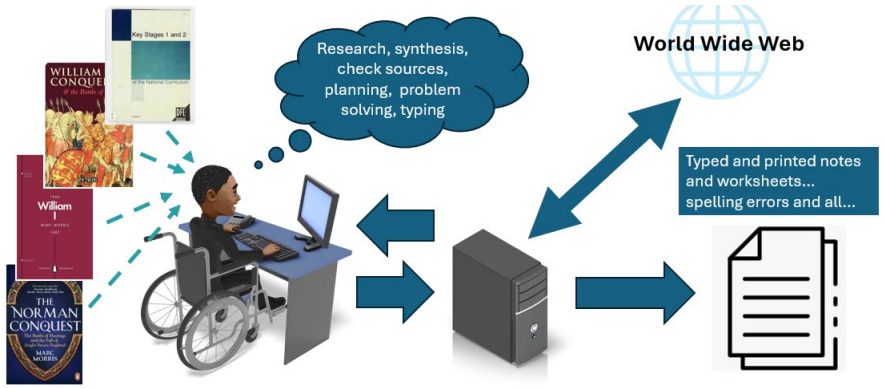
Teacher prep for a project about William the Conqueror



1990s

Teacher prep for a project about William the Conqueror





Deep Learning

Computers becoming able to learn without humans controlling the data input

Search engines improve, self-driving cars, computers beating chess champions, AI predicting weather patterns, **Speech recognition software** (Dragon) in 1997.

Computer chips become ever more powerful.

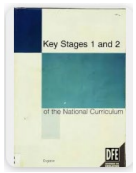
Intelligent tutoring systems that would adapt learning pathways according to learner feedback.

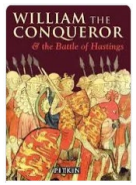
2000s

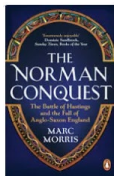
Teacher prep for a project about William the Conqueror

World Wide Web

Research, synthesis, check sources, planning, problem solving, typing



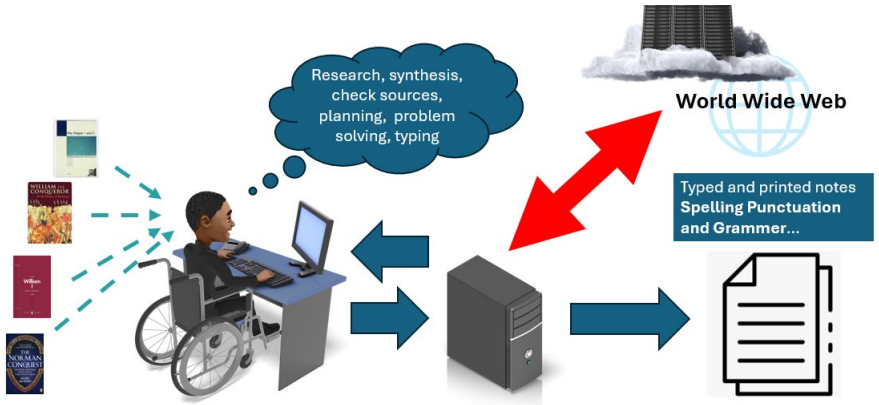




Typed and printed notes **Spelling Punctuation and Grammar…**

2000s

Teacher prep for a project about William the Conqueror



AI-driven
LARGE LANGUAGE MODEL

Trained on thousands upon thousands of books and texts
The spoken word
Video and film

AI systems improving in ability to **infer** and **predict** and **create** as more and more data is entered

Natural Language Processing becomes accessible and affordable, enabling verbal interactions for information retrieval and learning.

Search engines capable of looking within the text of documents and articles for key words and phrases, not just meta-data and titles.

Businesses and **Corporates** invest heavily across a range of uses.

Today

Teacher prep for a project about William the Conqueror

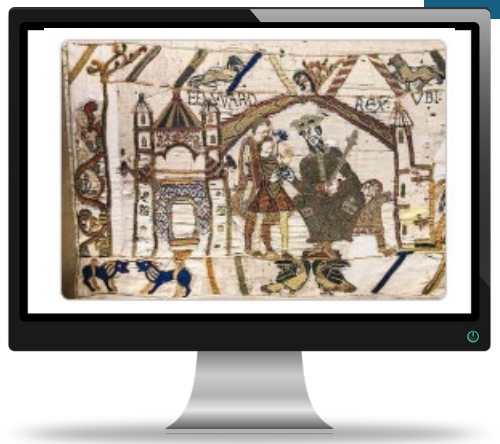
Please produce a set of teaching and learning resources suitable for 11-year-olds that explore events leading up to and including the Battle of Hastings in 1066.

- 8 hrs of independent study with learning objectives
- 5 x 250 word illustrated stimulus materials with graded prompt questions (include English and French perspectives)
- 10 min introductory video and podcast
- Mark scheme assessment based on a verbal debate…

etc. etc. etc.

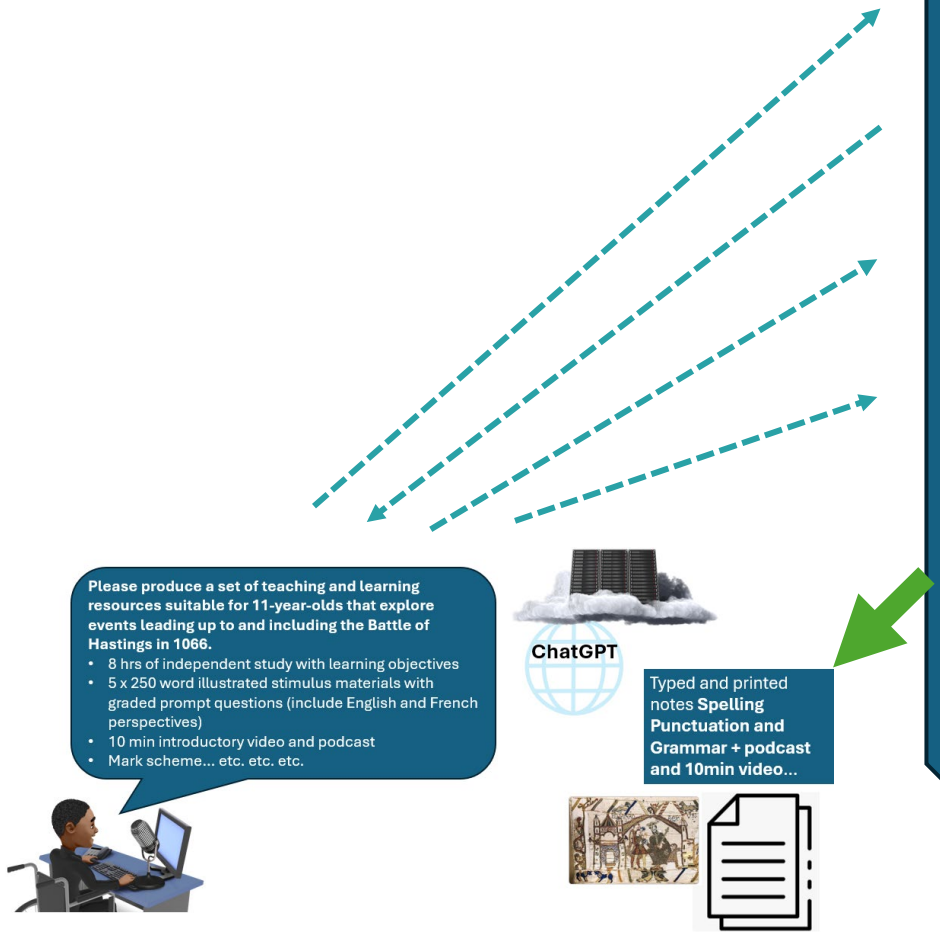
ChatGPT

Typed and printed notes and resources **Spelling Punctuation and Grammar + podcast + 10min video…**



Today

Teacher prep for a project about William the Conqueror



genAI is now readily available for use at all levels of education

GenAI, or generative AI, can produce original content like text, images, videos, audio, and even computer code, based on patterns learned from vast datasets.

With the additional LLM (Large Language Model) capability, conversational interaction is now possible.

The quality of the output is heavily influenced by the quality of the input (what you ask it to do- "**prompts**").

Top Generative AI Companies Compared

The following table provides an at-a-glance overview of the top eight generative AI companies and their products.

	Headquarters	Founded	Latest employee count	Key Products	Latest Market cap*
OpenAI	San Francisco, CA	2015	200-500 employees + over 6,000 associated members	GPT-4o, ChatGPT, DALL-E 3, Sora	Private company valued at $80 billion+
Microsoft	Redmond, WA	1975	10,000 employees + over 239,000 associated members	Microsoft Copilot Studio, Azure AI Studio	$2.90 trillion
Alphabet (Google)	Mountain View, CA	1998	10,000 employees + over 300,000 associated members	Gemini, Vertex AI, LaMDA, PaLM 2	$2.14 trillion
Anthropic	San Francisco, CA	2021	500-1000 employees + over 1000 associated members	Claude 3.7 Sonnet, Claude API	Private company valued at $61.5 billion
Hugging Face	Brooklyn, NY	2016	~500 employees + over 500 associated members	BLOOM, AutoTrain, Inference Endpoints	Private company valued at $4.5 billion

Privacy

https://www.eweek.com/artificial-intelligence/generative-ai-companies/

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How can #AI support #Teaching and #Learning?

How can #AI support #Teaching and #Learning?

Lesson planning and resource creation, including adaptive teaching resources

Data management and report writing (including the work of #SENDCos)

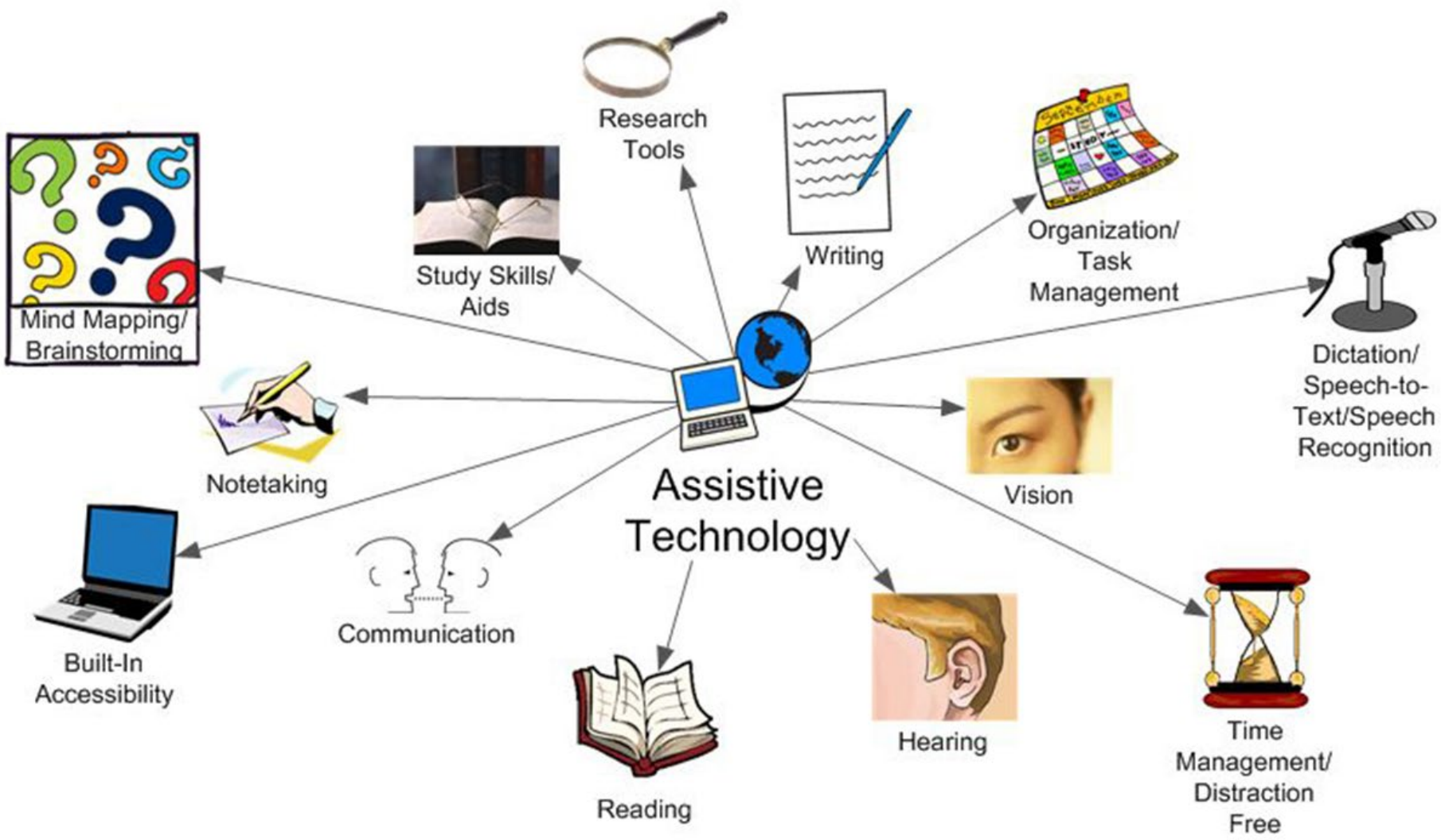
Marking, screening and assessment, including:

- **assessment of knowledge**, but also
- **assessment of needs**

Personalised and individualised **interactive learning and support** for children

Accessibility

Accessibility



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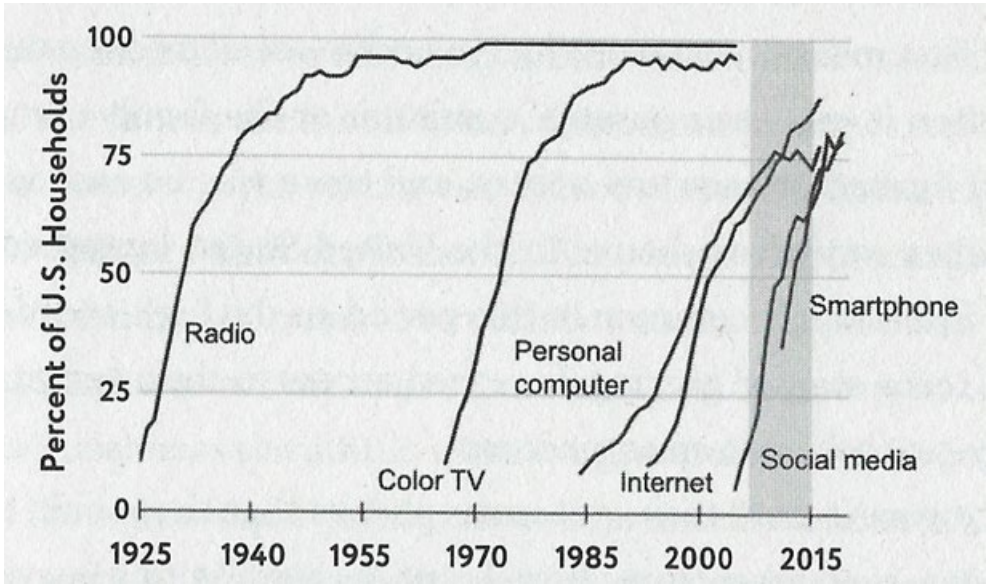
#AI at Moon Hall

AI and Growing Up

AI and Growing Up

We got things badly wrong with the advent of social media, didn't we?



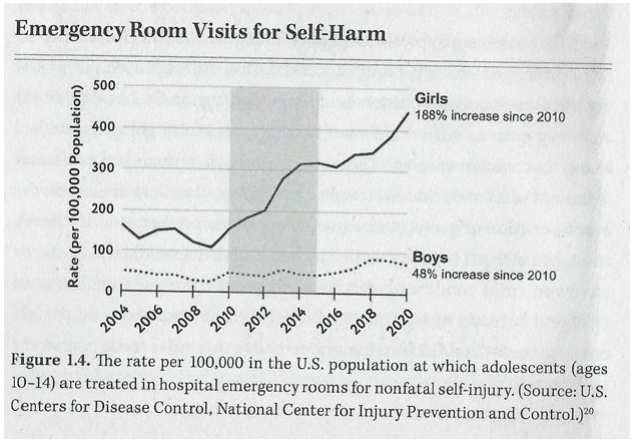


Figure 1.4. The rate per 100,000 in the U.S. population at which adolescents (ages 10–14) are treated in hospital emergency rooms for nonfatal self-injury. (Source: U.S. Centers for Disease Control, National Center for Injury Prevention and Control.)[20]

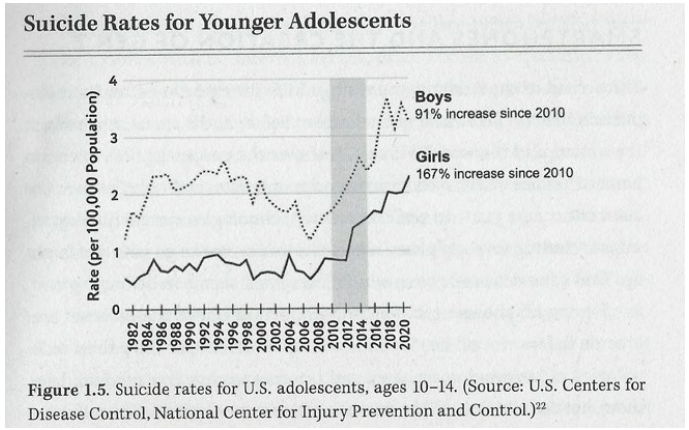
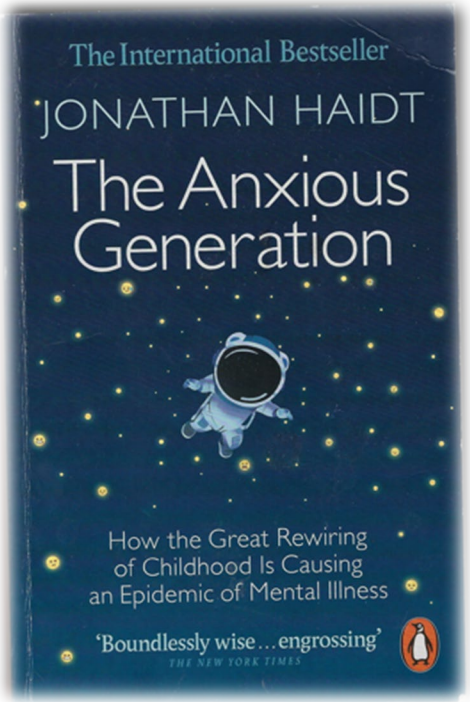
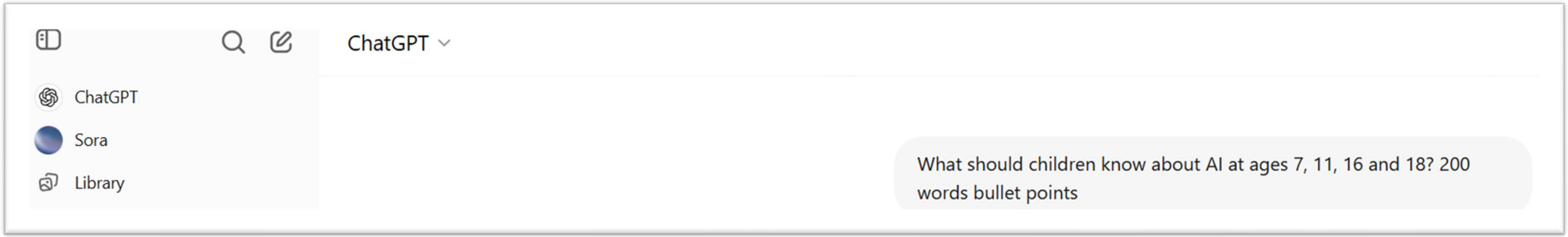


Figure 1.5. Suicide rates for U.S. adolescents, ages 10–14. (Source: U.S. Centers for Disease Control, National Center for Injury Prevention and Control.)[22]



In **2009**, the "LIKE" button was added to Facebook. In 2010, the "**SHARE**" button



What should children know about AI at ages 7, 11, 16 and 18?

200 words bullet points

Let's ask CHAT GTP!

What should children know about AI at ages 7, 11, 16 and 18? 200 words bullet points

Here’s a concise overview of what children should know about AI at different ages, tailored to their cognitive and educational development:

Age 7 (Key Stage 1–2)

- AI means machines or computers that can "think" or make decisions.
- Examples: voice assistants (like Alexa), robots, or game characters.
- AI can recognize patterns (e.g., sorting shapes or faces).
- Understand that AI is created by people and doesn't have feelings.
- Simple digital safety (e.g., don’t trust everything online).

What should children know about AI at ages 7, 11, 16 and 18? 200 words bullet points

Here’s a concise overview of what children should know about AI at different ages, tailored to their cognitive and educational development:

Age 11 (End of Key Stage 2)

- AI learns from data (like photos, numbers, or words).
- Understand basic terms like "algorithm" and "machine learning."
- Recognise everyday AI uses: search engines, recommendations, filters.
- Begin to question how fair or accurate AI decisions are.
- Reinforce digital citizenship and privacy (e.g., protecting personal data).

What should children know about AI at ages 7, 11, 16 and 18? 200 words bullet points

Here’s a concise overview of what children should know about AI at different ages, tailored to their cognitive and educational development:

Age 16 (Key Stage 4/GCSE)

- Understand how AI systems are trained using large datasets.
- Explore ethical issues: bias, job automation, surveillance.
- Introduction to coding simple AI models or simulations.
- Analyse AI's impact on society and different industries.
- Evaluate benefits vs. risks of AI in real-life applications.

What should children know about AI at ages 7, 11, 16 and 18? 200 words bullet points

Here's a concise overview of what children should know about AI at different ages, tailored to their cognitive and educational development:

Age 18 (Key Stage 5/A-Level)

- Deepen understanding of neural networks and generative AI.
- Study ethical, legal, and philosophical questions around AI.
- Explore career opportunities in AI-related fields.
- Debate regulation, misinformation, and responsible AI design.
- Understand global impact: sustainability, geopolitics, and human rights.

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Some critical things to be aware of

Some critical things to be aware of

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Personal data, safeguarding and data security

Some critical things to be aware of

AI Hallucinations

Some critical things to be aware of

AI Source data – who edits or controls it?

No one?

Some critical things to be aware of

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Questioning and searching– confirmation bias?

Some critical things to be aware of

Prompts

The quality of the output is 100% dependent on the quality of your input

Some critical things to be aware of

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Hidden costs

Hidden costs