

CCST5037 Mathematics: A Cultural Heritage

Assignment 2

Item 1

Source:

THE HECHINGER REPORT, October 24, 2023

URL:

<https://hechingerreport.org/ai-might-disrupt-math-and-computer-science-classes-in-a-good-way/>

Note to explain how this news clipping is related to mathematics:

In the articles, the author focuses on how mathematics education relates to AI-based tools in today's society. Some educators perceive AI as a threat while some perceive AI as a great help to mathematics education arguing that it provides student instant support and feedback (like Photomath), besides, it can also help in lesson planning, feedback provision and math question development tailored to different teaching grades among teachers.

Item 2

Source:

Education Week, October 16, 2023

URL:

<https://www.edweek.org/technology/opinion-im-a-math-teacher-graphing-calculators-taught-me-a-thing-or-two-about-ai/2023/10>

Note to explain how this news clipping is related to mathematics:

The article offers a concise viewpoint on the inevitability and significance of integrating AI technology in Mathematics education, thereby urging a reevaluation of the content and pedagogy of Mathematics education in the AI era.

Item 3

Source:

ZDNET, November 16, 2023

URL:

<https://www.zdnet.com/article/math-and-business-development-why-the-2-divergents-skills-matter-in-an-ai-world/>

Note to explain how this news clipping is related to mathematics:

The article emphasizes the need for basic math skills for those building AI-based applications, to understand the underlying technology, data science, and statistics that drive AI innovation and productivity.

Item 4

Source:

The Post-Journal, September 24, 2023

URL:

<https://www.post-journal.com/news/top-stories/2023/09/what-about-math/>

Note to explain how this news clipping is related to mathematics:

In the article, the author writes about how “science of math” is important in mathematic education and how it improves mathematic education in American schools by emphasizing systematic and explicit instruction, like the phonics-based approach used in reading instruction. In addition, the articles also emphasize the science of math movement is still in its early stages and has not received as much attention or funding as the science of reading.

Item 5

Source:

NBCUniversal Media, October 3, 2023

URL:

<https://www.nbcdfw.com/news/local/texas-news/which-students-get-into-advanced-math-texas-is-using-test-scores-to-limit-bias/3351570/>

Note to explain how this news clipping is related to mathematics:

The article reports a update to the mathematic education in the Texas, and investigate the Opt-out policy for advanced mathematics in different point of view.

Item 6

Source:

PBSO NEWS HOUR, October 17, 2023

URL:

<https://www.pbs.org/newshour/nation/math-disabilities-hamper-student-success-yet-schools-rarely-screen-for-them>

Note to explain how this news clipping is related to mathematics:

The article highlights the awareness of Math disability in the U.S. Mathematic Education and discusses the resulting challenges of this issue.

Item 7

Source:

BUSINESS INSIDER, October 5, 2023

URL:

<https://www.businessinsider.com/bill-gates-math-education-school-suggestions-foundation-2023-10>

Note to explain how this news clipping is related to mathematics:

The article offers a viewpoint from Bill Gates about the intrinsic values of mathematic, mathematic education problem, and sample of solution.

Item 8

Source:

Redbrick, October 25, 2023

URL:

<https://www.redbrick.me/a-feminist-analysis-of-girl-math/>

Note to explain how this news clipping is related to mathematics:

The article discusses the difference of mathematic performance between female and male, explores the concept of "Girl Math," which refers to the label of poor financial decision-making and mathematical awareness and examines whether this label as exclusively feminine traits is misogynistic.

Item 9

Source:

The Guardian, September 28, 2023

URL:

<https://www.theguardian.com/lifeandstyle/2023/sep/28/girl-math-tiktok-joke-women-sexism>

Note to explain how this news clipping is related to mathematics:

The article provides a brief opinion about how the difference in “sense of number” between female and male leads to the discussion of sexism on the Internet (Girl math vs. Boy math). This article shows that mathematics becomes a significant attribution of a person in the current society.

Item 10

Source:

CNN, October 7, 2023

URL:

<https://edition.cnn.com/2023/10/07/us/girl-math-boy-social-media-cec/index.html>

Note to explain how this news clipping is related to mathematics:

The article shows the origin of girl math, a term for the jokes that women make about their internal logic or calculations, showing that mathematic, as an essential skill in daily life, leads to Sociological debate, such as gender stereotypes.

Mathematics and technology have a mutually influential and irreplaceable relationship that promotes each other's development. From Item 3, mathematics holds an irreplaceable position in technology. Taking AI as an example, various fields of mathematics such as statistics, algebra, and calculus enable computer to analyze lengthy passages, reconstruct language, and ultimately facilitate intuitive communication between humans. Mathematics not only serves as foundation of technology but also acts as its fertilizer, allowing technology to expand, like ChatPDF (AI application which understand PDF files by mathematical algorithms). Technology also promotes mathematic education, as observed in Item 1 and Item 2. AI not only provides students with real-time explanations but also allows teachers to improve teaching methods and cater to individual needs. Ultimately, technology assists in nurturing more mathematical talents in education and lead to exponential progress in the future of mathematics.

Mathematics also enhances human psychology. From Item 9 and 10, some girls make irrational decisions due to weak perception of

mathematical concept, which leads to ridicule from people on the Internet, yet, as seen in Item 8, mathematical ability is not inherently linked to gender. What is more important is mathematics is essential to make rational choices and personal intelligence, as demonstrated in Item 7. However, as seen in Item 6, many students struggle to understand mathematics, and part of responsibility can be attributed to teaching methods (Item 4 & 7). It is suggested mathematics educational approach should be evidence-based and tailor-made in order to retain mathematical talents. Fortunately, as shown in Item 5, new educational measures prevent students from overestimating or underestimating their abilities. I believe that mathematics education contributes significantly to future cognitive development. Therefore, it is crucial to improve educational measures appropriately, to prevent more students from developing a dislike for mathematics and losing a bright future.

(Word: 298)