

“NEW” LITERACY EDUCATION

An exploratory discussion

3 JULY 2023

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- ▶ Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society. Generally, literacy also encompasses numeracy, the ability to make simple arithmetic calculations. The concept of literacy can be distinguished from measures to quantify it, such as the literacy rate and functional literacy.
- ▶ UNESCO Institute for Statistics

WHAT IS LITERACY ?



- ▶ For decades, **literacy and numeracy skills** have long been the foundation of K-12 school curriculum to support students' learning of new knowledge as well as expressing themselves, articulating their thoughts and communicating with others. The two skills, termed as “cognitive foundations”, alongside health foundations and social and emotional foundations, formed the major three in the Organization for Economic Cooperation and Development (OECD)'s Core Foundations 2030.



Cognitive
foundation



Social and
emotional
foundation

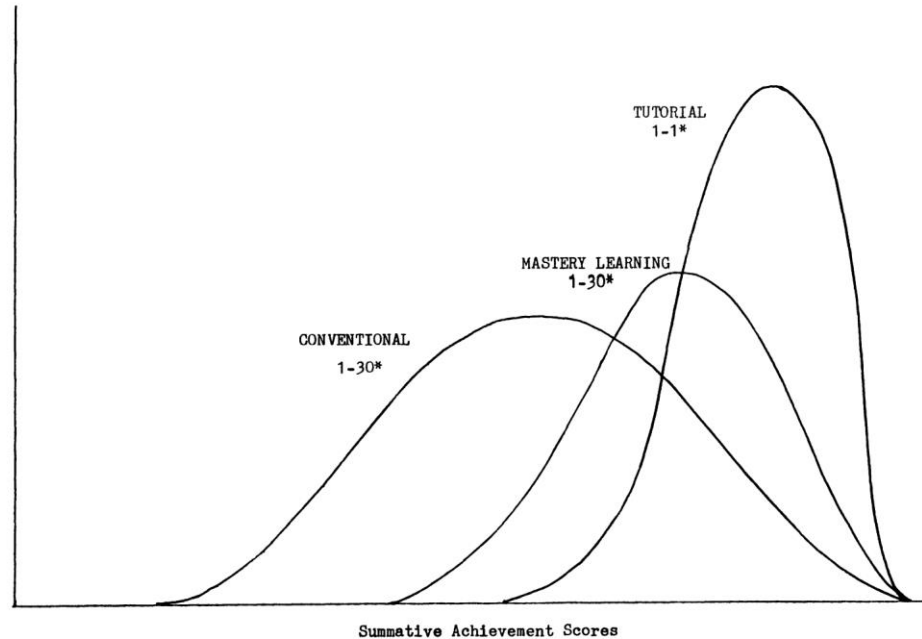


Health foundation

- ▶ For example, Programme for International Student Assessment (PISA)

LITERACY IS ONE OF THE CORE FOUNDATIONS 2030

FIGURE 1. Achievement distribution for students under conventional, mastery learning, and tutorial instruction.



*Teacher-student ratio

June/July 1984

5

THE 2 SIGMA PROBLEM: THE SEARCH FOR METHODS OF GROUP INSTRUCTION AS EFFECTIVE AS ONE-TO- ONE TUTORING

Benjamin S Bloom,
University of
Chicago and
Northwestern
University

HOW AI COULD SAVE (NOT DESTROY) EDUCATION | SAL KHAN | TED

Khanmigo:
Personalised AI Tutors
2'19" – 4'21"

Source:
<https://www.youtube.com/watch?v=hJP5GqnTrNo&t=472s>

youtube.com/watch?v=hJP5GqnTrNo&t=472s

WhatsApp Emoj... Gmail YouTube Maps 關於我們 - 賽馬會... Single record - For... Full List of DSS Sch... localhost / localhos... 817a2c46ddc23e2e... En

YouTube HK

khan

And we're going to give every teacher on the planet an amazing,

0:53 / 15:36 • Intro >

How AI Could Save (Not Destroy) Education | Sal Khan | TED

TED 23M subscribers

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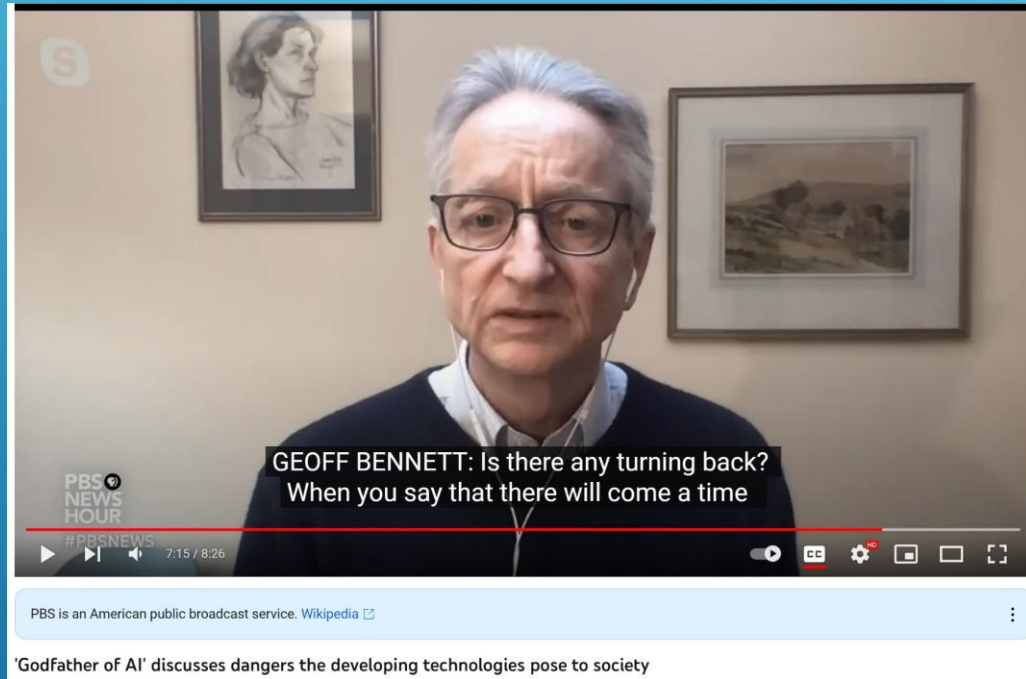
30K

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'GODFATHER OF AI' DISCUSSES DANGERS THE DEVELOPING TECHNOLOGIES POSE TO SOCIETY



Risks:

1. Producing Fake news
2. Encouraging polarisation by getting people to click on things that make them indignant
3. Putting people out of work contrary to increase productive, it just benefits the rich
4. Bias and discrimination

Take over human and manipulate human

Source:

<https://www.youtube.com/watch?v=yAgQWnD31nE&t=123s>

NEW AVAILABILITIES AND NEW THREATS

- | | |
|---|--|
| <ul style="list-style-type: none">• Development and availability of internet• Use and adoption of information and communication technology (ICT) in learning and teaching• Increasing mobile devices• Emergence of social media and digital applications• Abundance availability of data from various sources• Immersive experience produced by technologies• Unprecedented speed of AI development | <ul style="list-style-type: none">• Information overload• Fake news• Misinformation• Cyberbullying• Cybersecurity• Internet addiction• Problem Solving Skills• Digital divide• Digital employability |
|---|--|

Regulate Technologies
Literacy Education



Digital Literacy



Media Literacy



IT Literacy



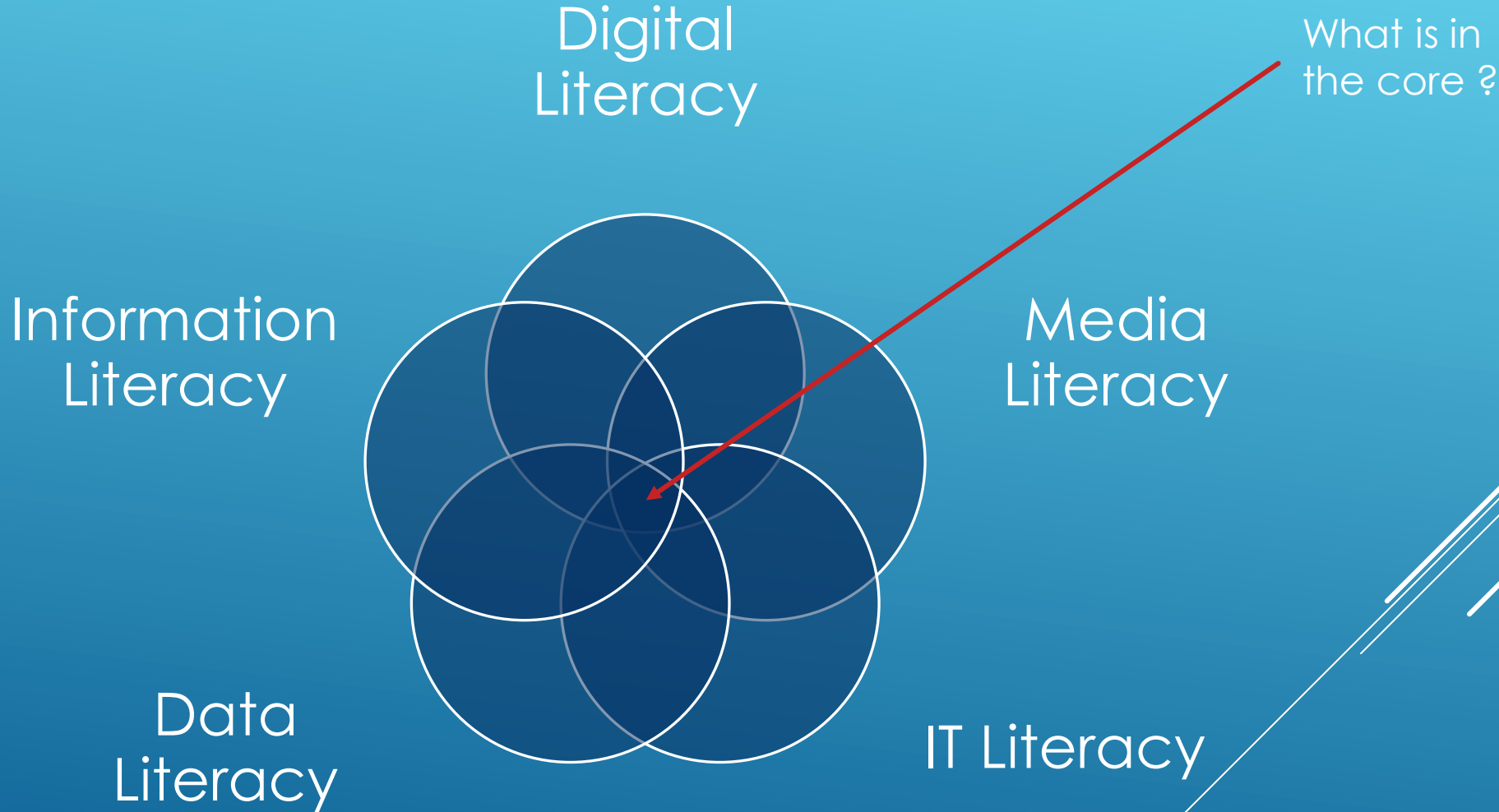
Data Literacy



Information Literacy

EMERGING
NEW DOMAINS
OF LITERACIES

WHAT ARE THE INTER-RELATIONSHIP ?





TO READ DATA THROUGH READING CHARTS AND GRAPHS PROPERLY,



TO WORK WITH DATA WHICH ENTAILS THE ABILITY TO UNDERSTAND, INTERPRET AND ANALYSE THEM,



TO EVALUATE DATA IN CONTEXT AND IN TERMS OF VALIDITY, RELIABILITY AND AUTHENTICITY AND RECOGNIZE WHETHER DATA HAVE BEEN MISREPRESENTED OR USED IN INAPPROPRIATE WAYS, AND



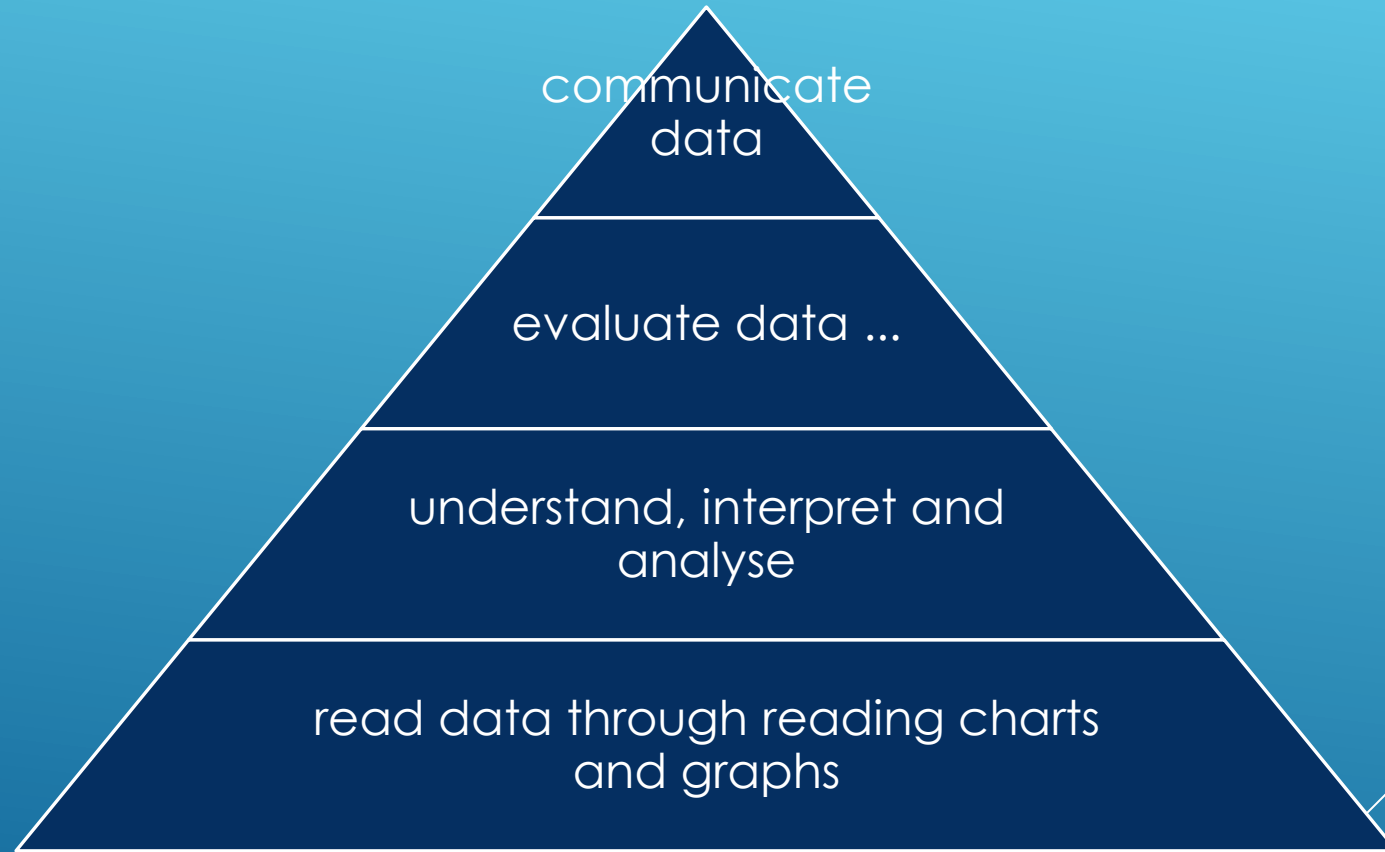
TO COMMUNICATE DATA AND THE INSIGHTS DERIVED TO INFORM DECISIONS MADE.



DATA LITERACY AS THE ABILITY TO READ, WRITE AND COMMUNICATE DATA IN CONTEXT, INCLUDING AN UNDERSTANDING OF DATA SOURCES AND CONSTRUCTS, ANALYTICAL METHODS AND TECHNIQUES APPLIED, AND THE ABILITY TO DESCRIBE THE USE CASE, APPLICATION AND RESULTING VALUE. --- GARTNER

DATA LITERACY

MAYBE STACKED AS SUCH ?



RELATIONSHIP BETWEEN INFORMATION LITERACY (IL) AND VALUES EDUCATION/GENERIC SKILLS/ KEY LEARNING AREAS

- ▶ IL can be developed in the context of handling information with different media and information platforms in life events when students are provided with learning experiences which involve the **application of generic skills** (e.g. critical thinking skills, creativity and problem-solving skills) and **upholding of positive values and attitudes** (e.g. integrity, respect for others, law-abidingness and empathy).
- ▶ While students apply IL in relevant key learning areas/subjects/school library activities, they can leverage on the advancements in IT to benefit their learning and become informed and responsible citizens in the knowledge-based society.

Source: EDB

INFORMATION LITERACY (IL) AREAS

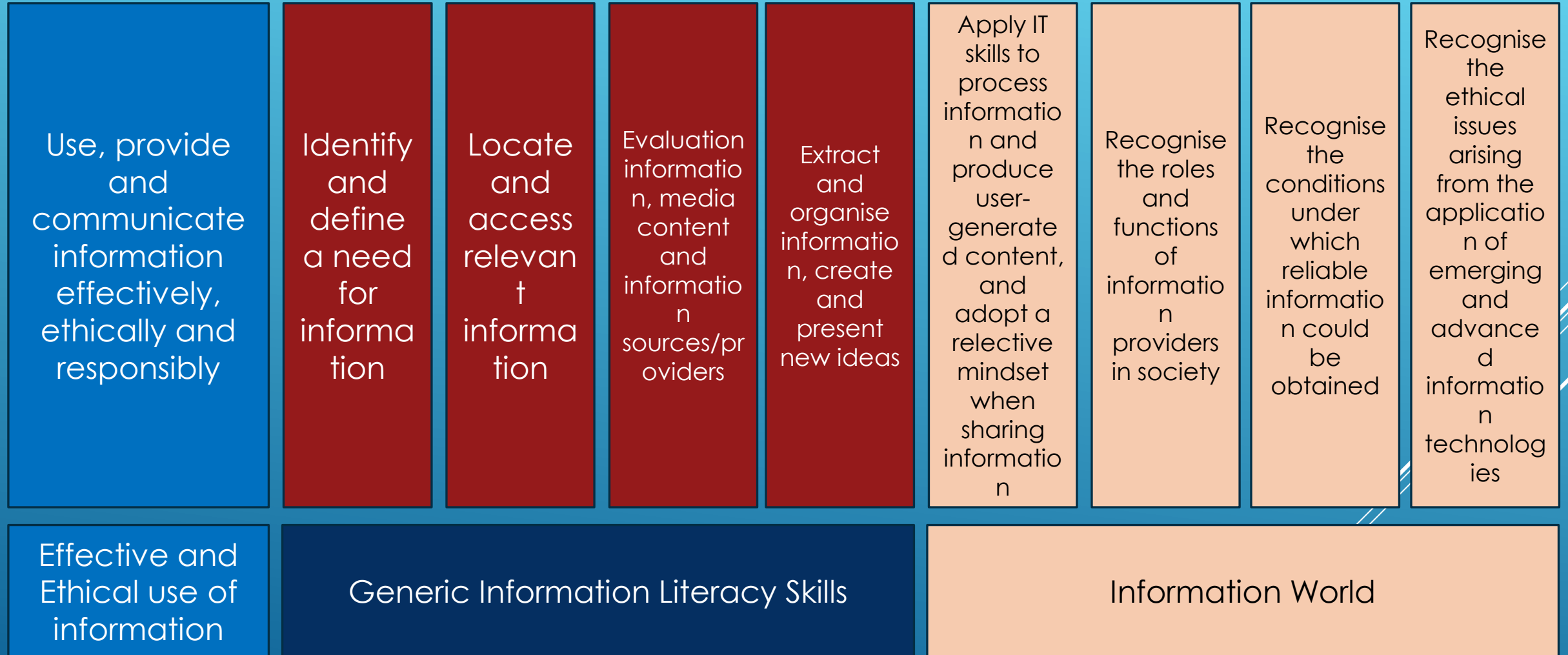


Table 1: Learning Elements of Information Literacy in Subjects/Lessons of Primary and Secondary Schools (Examples)

Literacy Area	Content of Information Literacy	Subject/Lesson(s)
<p>Literacy Area 1: Use, provide and communicate information effectively, ethically and responsibly</p>	<ul style="list-style-type: none"> • Have a basic understanding of Intellectual Property Rights. 	<ul style="list-style-type: none"> • General Studies (Primary School) • Lessons of Values Education (Primary School)
<p>Literacy Area 2: Identify and define a need for information Literacy Area 3: Locate and access relevant information</p>	<ul style="list-style-type: none"> • Identify and define a need for information. Understand a variety of methods to locate and access information. 	<ul style="list-style-type: none"> • General Studies (Primary School)
<p>Literacy Area 5: Extract and organise information, create and present new ideas Literacy Area 6: Apply IT skills to process information and produce user-generated content, and adopt a reflective mindset when sharing information</p>	<ul style="list-style-type: none"> • Be able to process information and create new ideas with the intention of communicating the ideas to an audience. • Create and present information and ideas for the purpose of sharing and exchanging by using information from different sources, in view of the needs of the audience. 	<ul style="list-style-type: none"> • Biology (Secondary School)

Table 1: Learning Elements of Information Literacy in Subjects/Lessons of Primary and Secondary Schools (Examples)

<p>Literacy Area 7: Recognise the roles and functions of information providers in society</p> <p>Literacy Area 8: Recognise the conditions under which reliable information could be obtained</p>	<ul style="list-style-type: none"> • Be able to examine images and representations to identify misrepresentations and lack of representation. • Be able to analyse the values projected by information providers. □ Recognise that every citizen could act as a responsible information provider in order to build a better society. 	<p>Geography (Secondary School)</p>
<p>Literacy Area 4: Evaluate information, media content and information sources/providers</p> <p>Literacy Area 9: Recognise the ethical issues arising from the application of emerging and advanced information technologies</p>	<ul style="list-style-type: none"> • Develop Fact-checking skills and various criteria for evaluating information. • Refrain from unethical use of emerging and advanced information technologies. 	<p>IT related subjects (Secondary School)</p>
<p>Literacy Area 9: Recognise the ethical issues arising from the application of emerging and advanced information technologies</p>	<ul style="list-style-type: none"> • Understand and identify the ethical issues arising from the use of AI. 	<ul style="list-style-type: none"> • Liberal Studies/ Citizenship and Social Development (Secondary School) • IT related subjects (Secondary School)

1. Define Intended Learning Outcomes:
2. Curriculum Integration: Integrate information literacy into the existing curriculum across various subjects and grade levels. Collaborate with subject teachers to incorporate IL into lesson plans. Students can see the relevance of information literacy across different disciplines.
3. Scope and Sequence: Develop a scope and sequence plan that outlines the progression of information literacy skills and concepts from the early years to graduation.
4. Inquiry-Based Learning: Promote inquiry-based learning approaches that encourage students to ask questions, investigate, and seek information to solve problems or answer inquiries. This approach fosters critical thinking, research skills, and information evaluation.
5. Information Seeking and Evaluation: Teach students how to effectively search for information using various sources, including libraries, databases, and the internet. Emphasize the importance of evaluating the credibility, reliability, and bias of information sources to make informed decisions.

PLANNING FOR INFORMATION LITERACY

6. Ethical and Responsible Use of Information: Educate students about rights and responsibilities in internet. Create opportunities for students to reflect
 7. Technology Integration: Emphasize the use of technology tools and resources to access, evaluate, and create information.
 8. Collaboration and Communication: Foster collaboration and communication skills both online and offline.
 9. Assessment and Reflection: Develop assessment strategies to understand students' information literacy skills and knowledge. Use a variety of assessment methods such as group work, presentations, and reflective assignments to evaluate competencies.
 10. Professional Development: Encourage professional development for teachers to enhance information literacy skills and stay updated with emerging technologies and trends.
- ▶ It is an ongoing and evolving process requiring continuous review, adaptation, and refinement.

PLANNING FOR INFORMATION LITERACY

STUDENT ACTIVITIES - CHECK IT OUT WHAT CHATGPT SUGGESTS

1. Research Scavenger Hunt
2. Source Evaluation Exercise
3. Creating Annotated Bibliographies
4. Fake News Detection:
5. Collaborative Research Project
6. Digital Storytelling
7. Debate or Panel Discussion
8. Information Literacy Reflection Journals

Remember to adapt these activities to suit the grade level and specific learning objectives of your students. By engaging in these activities, students will not only enhance their information literacy skills but also develop a deeper understanding of the importance of critically evaluating and using information effectively.

1. RESEARCH SCAVENGER HUNT

1. Find out where this temple is ?

Create a scavenger hunt activity where students are given a list of specific information or sources they need to find. They can work individually or in small groups to search for the information using a variety of resources such as books, databases, and websites. This activity helps students practice their information seeking and evaluation skills.

An image of a 文武廟
obtained from internet




2. SOURCE EVALUATION EXERCISE

- ▶ Provide students with a set of different sources (articles, **websites, social media posts**) related to a specific topic. Ask them to **critically evaluate each source and determine its credibility, reliability, and bias**. They can use evaluation criteria such as author credentials, publication date, references, and objectivity. This activity promotes critical thinking and information evaluation skills.

Image of a discussion in LIHKG



3. CREATING ANNOTATED BIBLIOGRAPHIES

- ▶ Assign students a research project and ask them to create annotated bibliographies as part of their process. An annotated bibliography includes a summary and evaluation of each source they used in their research. This activity helps students practice their information organization, summarization, and critical evaluation skills.
- 
- A decorative graphic consisting of several parallel white lines of varying lengths and orientations, located in the bottom right corner of the slide.

4. FAKE NEWS DETECTION

- ▶ With the proliferation of fake news, it is crucial to teach students how to identify misinformation. Provide students with examples of news articles or social media posts containing false information. Ask them to fact-check and verify the accuracy of the information by cross-referencing with reliable sources. This activity develops their critical evaluation and media literacy skills.

Source:

- ▶ https://factcheck.hkbu.edu.hk/home/en/fc_report_eng/23051801/

factcheck.hkbu.edu.hk/home/en/fc_report_eng/23051801/

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False

Publish Date (HKT) 2023-05-26

Photo of 'chained woman' from her school days has been digitally edited

悉地蘭人 @Jerry08107966
有人找出鍾鍊女上學的時候的照片，她就是在這個時候被人販子綁架的.....
Thanks!a Tweet

Jonah Kenny
4天 · 粵

00:44 5G

Album 人物
Hugo Yu
41 m · 粵
有人找出鍾鍊女上學的時候的照片，她就是在這個時候被綁架的.....

遺忘妳，我們的良心會痛

7:29 PM · May 14, 2023 · 216.7K Views

396 Retweets 24 Quotes 1,641 Likes 30 Bookmarks

618 66個回應 14次分享

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- 網傳影片並非顯示男子狂犬病發作，實為2017年廣西一男子精神病發首聞

Screenshots of the posts captioned "the photo of the 'chained Woman' when she was in school."

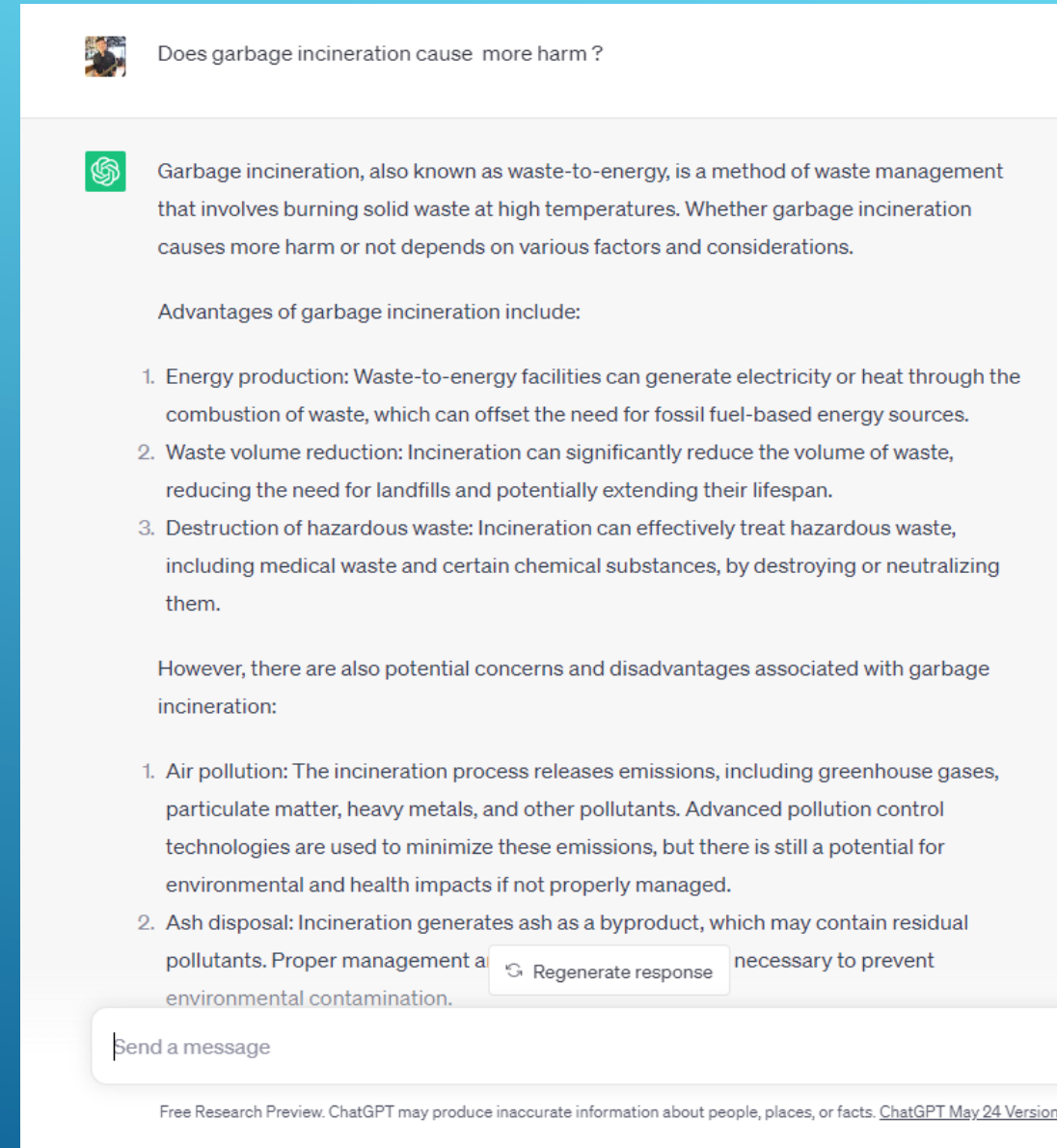
5. COLLABORATIVE RESEARCH PROJECT

- ▶ Divide students into small groups and assign them a research topic. Each group member can be responsible for researching and gathering information from different sources. They then come together to share and evaluate the information collected, discussing its relevance, reliability, and potential biases. This activity promotes collaboration, communication, and information evaluation skills.

- ▶ A desktop project or physical project ?

E.g.

- ▶ 1. Does garbage incineration cause more harm ?
- ▶ 2. What makes people obese ?



Does garbage incineration cause more harm ?

Garbage incineration, also known as waste-to-energy, is a method of waste management that involves burning solid waste at high temperatures. Whether garbage incineration causes more harm or not depends on various factors and considerations.

Advantages of garbage incineration include:

1. Energy production: Waste-to-energy facilities can generate electricity or heat through the combustion of waste, which can offset the need for fossil fuel-based energy sources.
2. Waste volume reduction: Incineration can significantly reduce the volume of waste, reducing the need for landfills and potentially extending their lifespan.
3. Destruction of hazardous waste: Incineration can effectively treat hazardous waste, including medical waste and certain chemical substances, by destroying or neutralizing them.


However, there are also potential concerns and disadvantages associated with garbage incineration:

1. Air pollution: The incineration process releases emissions, including greenhouse gases, particulate matter, heavy metals, and other pollutants. Advanced pollution control technologies are used to minimize these emissions, but there is still a potential for environmental and health impacts if not properly managed.
2. Ash disposal: Incineration generates ash as a byproduct, which may contain residual pollutants. Proper management and disposal are necessary to prevent environmental contamination.


Send a message

Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT May 24 Version](#)

6. DIGITAL STORYTELLING

- ▶ Ask students to research a specific topic and create a digital story that presents their findings in a creative and engaging way. They can use multimedia tools such as video editing software, presentation tools, or website builders. This activity combines information literacy with digital literacy and communication skills.
- 

7. DEBATE OR PANEL DISCUSSION

- ▶ Assign students different perspectives or viewpoints on a controversial topic. They need to research and gather supporting evidence for their assigned position. Then, organize a debate or panel discussion where students present their arguments, challenge opposing viewpoints, and engage in critical dialogue. This activity enhances students' research, critical thinking, and communication skills.
- 

8. INFORMATION LITERACY REFLECTION JOURNALS:

- ▶ Allocate time for students to maintain reflection journals throughout the year. In these journals, they can record their experiences, challenges, and successes related to information literacy. Encourage them to reflect on their research process, information evaluation skills, and ethical use of information. This activity promotes metacognition and self-assessment.
- ▶ E.g. Pre and Post reflection after research process

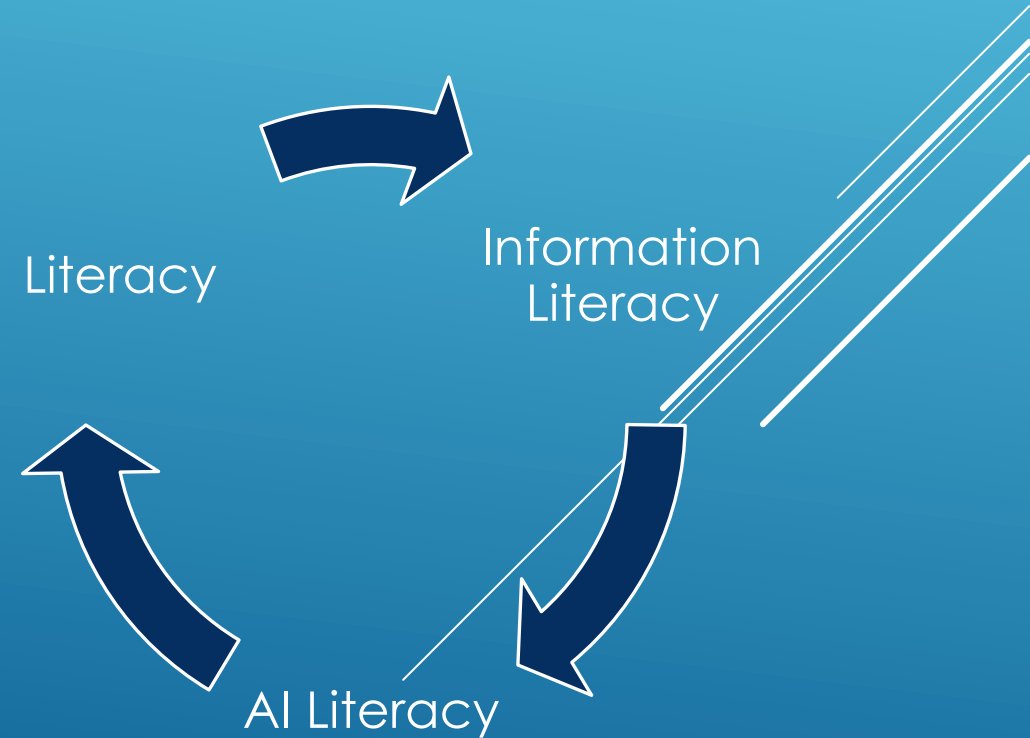
Common Fallacies (Scientific)

1. "Natural" means safe, and "synthetic" means harmful.
2. Large object falls faster than small one.
3. The Gambler's Fallacy: This fallacy occurs when individuals believe that previous outcomes of random events influence future outcomes.
4. Misinterpretation of Correlation and Causation – More doctors more patients

WHAT ABOUT “AI LITERACY” ?



- ▶ Define AI literacy ?
- ▶ What are the Processes
- ▶ Skill and knowledge (content)
- ▶ Value unchanged



4 PROCESSES

- ▶ Know and understand,
- ▶ Use,
- ▶ Evaluate
- ▶ Ethical issues

... for fostering AI literacy based on the adaptation of classic literacies.

Conceptualizing AI literacy: An exploratory review, Davy Tsz Kit Ng, Jac Ka Lok Leung, Samuel Kai Wah Chu, Maggie Shen Qiao, November 2021



is there a centrifugal force ?



The concept of centrifugal force is often used in everyday language and in certain reference frames, but from a physics perspective, centrifugal force is considered a fictitious or pseudo-force. It is not an actual force in the same way as gravitational or electromagnetic forces.



Centrifugal force is the apparent outward force that appears to act on an object moving in a curved path. It seems to push the object away from the center of the circle or the axis of rotation. However, this apparent force is a result of the inertia of the object trying to maintain its straight-line motion.

In reality, the object moving in a circular path experiences a centripetal force that acts toward the center of the circle, as I mentioned earlier. The centrifugal force arises as a result of observing the motion from a non-inertial reference frame, such as a rotating frame of reference. In such a frame, the observer experiences a sensation of being pushed outward due to their own inertia, even though no actual force is acting outwardly.

To summarize, centrifugal force is not a real force but rather a perceived or apparent force arising due to the observation from a non-inertial reference frame. The centripetal force is the actual force responsible for keeping an object in circular motion.

Regenerate response

Send a message



- ▶ Who created the message ?
- ▶ Who forwarded the message to me ?
- ▶ What are the purposes for sending it to me ?
- ▶ What should I do with the message ?
- ▶ How can I verify the content of the message ?
- ▶ What will happen if I can forward the messages ?

THE GOLDEN QUESTIONS

WITH THE INTRODUCTION OF GENERATIVE AI TECHNOLOGIES

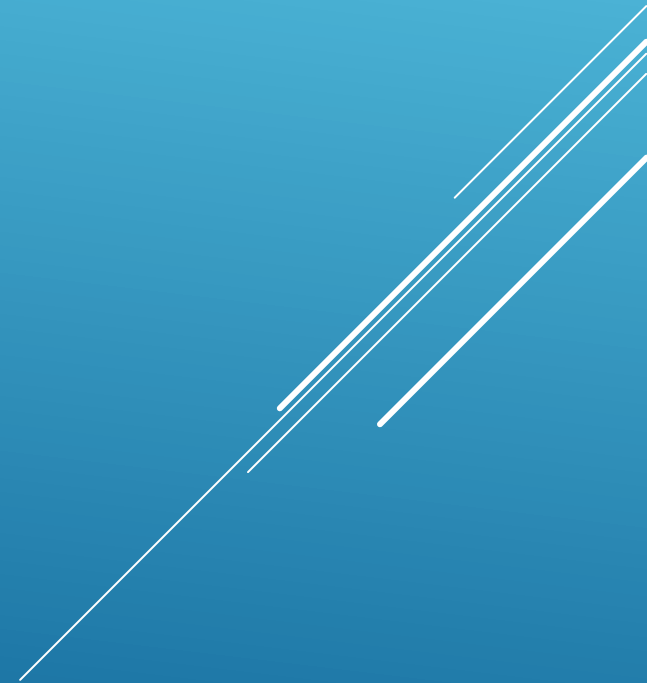
How do we apply the golden questions into literacy education ?

- ▶ *Who created the message ?*
- ▶ *Who forwarded the message to me ?*
- ▶ *What are the purposes for sending it to me ?*
- ▶ *What should I do with the message ?*
- ▶ *How can I verify the content of the message ?*
- ▶ *What will happen if I can forward the messages ?*

Responsible Use of AI



A few images, from a piece of fake news, depicting Ex-US President being prosecuted



REFERENCE

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- ▶ Davy Tsz Kit Ng a, Jac Ka Lok Leung b, Samuel Kai Wah Chu a, Maggie Shen Qiao, *Conceptualizing AI literacy: An exploratory review*, November 2021