

# Information Literacy in the Digital Era (數碼時代的資訊素養)

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2017

# Marching into the Digital Age



# Media and Information Literacy (MIL)

◆ 傳媒資訊素養 =

傳媒素養 + 資訊素養 + 資訊及傳播科技技能

MIL =

Media Literacy + Information Literacy + ICT Skills

# Definition

- ◆ MIL is the ability to access, evaluate/understand, and use/create media and information in various forms in a critical and effective way (involves a set of competencies)
- ◆ Not only deal with media messages, but all kinds of information

- ◆ A media-and-information-literate person should be able to handle messages coming from different sources
- ◆ e.g. mass media, Internet, social media, Libraries, museums, archives, databases, video games ...

# Information Literacy for Hong Kong Students 2016

## ◆ Advanced IL (高階資訊素養)

- Similar to MIL



◆ Peter Drucker

◆ Information Technology (IT)

- From the "T" of IT to the "I" of IT



# Why Do We Need Advanced Information Literacy?



# Three Major World Trends

- Communication revolutions
- Transition to knowledge societies
- New learning mode of the Net generation



# Communication Revolutions

# 1. Communication Revolutions

## ◆ Infomedia Revolution

- 1990s
- Blurred the line between media technology and information technology/computer technology

# Mass Media

- ◆ Printing
- ◆ Photo reproduction
- ◆ Radio broadcasting
- ◆ Filming
- ◆ Television Broadcasting
- ◆ VCR
- ◆ Cable technology
- ◆ Satellite
- ◆ Telecommunication

# Web 1.0

- ◆ Websites
- ◆ Online media (online newspapers)
- ◆ Video on demand
- ◆ Digital broadcasting
- ◆ IPTV


# Web 2.0

## We Media:


- ◆ Citizen journalism sites
- ◆ Blogs
- ◆ Wikis
- ◆ Social networks (e.g. Facebook, MySpace, Google+)
- ◆ Media sharing sites (e.g. Podcasting, photo-sharing sites such as Flickr, video sharing services such as YouTube)
- ◆ Social bookmarking sites (e.g. Delicious)
- ◆ Microblogging services (e.g. Twitter, Weibo)

# Web 3.0

- ◆ 1. Networking Computing
- ◆ 2. World Wide Database
- ◆ 3. The Intelligent Web
  - The computer can understand your request
- ◆ 4. Intelligent Applications
  - Through artificial intelligence, the computer can sort out useful suggestion/solution for you from the database
- ◆ 5. Wireless Access
  - iPhone, iPad, tablet

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- ◆ Web 1.0: Read only Web
  - ◆ Web 2.0: Read-write
  - ◆ Web 3.0: Read-write-execute Web



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- ◆ Web 1.0: information-centric (the Web)
  - ◆ Web 2.0: people-centric (social Web)
  - ◆ Web 3.0: machine-centric (semantic Web)
  - ◆ Web 4.0: agent-centric (ubiquitous)

# Web 4.0

- ◆ Web 4.0 will be as a **read-write-execution-concurrency web** with intelligent interactions (There is still no exact definition of it.)
- ◆ Web 4.0 is also known as **symbiotic web** in which human mind and machines can interact in symbiosis

## ◆ The Movie World

- the movie of "Her" (雲端情人)
- voice secretary of the computer operation system

## ◆ The Reality

- Apple: Siri (personal voice assistant)
- Microsoft: Cortana
- IBM: Watson



◆ We are marching into a Brave New World!

- Machine to machine communication
- Human to AI machine communication



# The Challenges of the New Technologies

# 1. How to Handle the Influences of the Digital Media

## ◆ New media environment → new social culture

- Second wave (industrial society): mass media → mass mind
- Third wave (knowledge society): de-massification media → blip culture

(immediacy, easy access, personalization, connectivity, datafication, spreadability, decentralisation, denationalisation, despatialisation...)



## ◆ Young people on Facebook

- Get “Like” – Narcissistic?
- Be eager to get recognition
- Live for other people?



◆ *Present Shock: When Everything Happens Now*

- Rushkoff argues that we no longer have a sense of a future, of goals, of direction at all. We have a completely new relationship to time; we live in an always-on “now,” where the priorities of this moment seem to be everything.



## ◆ Googlization

- Google search → too convenience → we are lazy to memorize things
- Dependence on Google
- Know a lot but not deep down
- Google memorizes things for you
  - Google also memorizes things about you – even mistakes

◆ *The Naked Future: What Happens in a World that Anticipates Your Every Move?*

◆ Big data – prediction models

- Predict earthquakes, improve health, produce highly customized education, prevent crime ...
- Data will be the most precious resource in the coming years

◆ Gain tremendous benefits? Are we losing our ability of not to do?

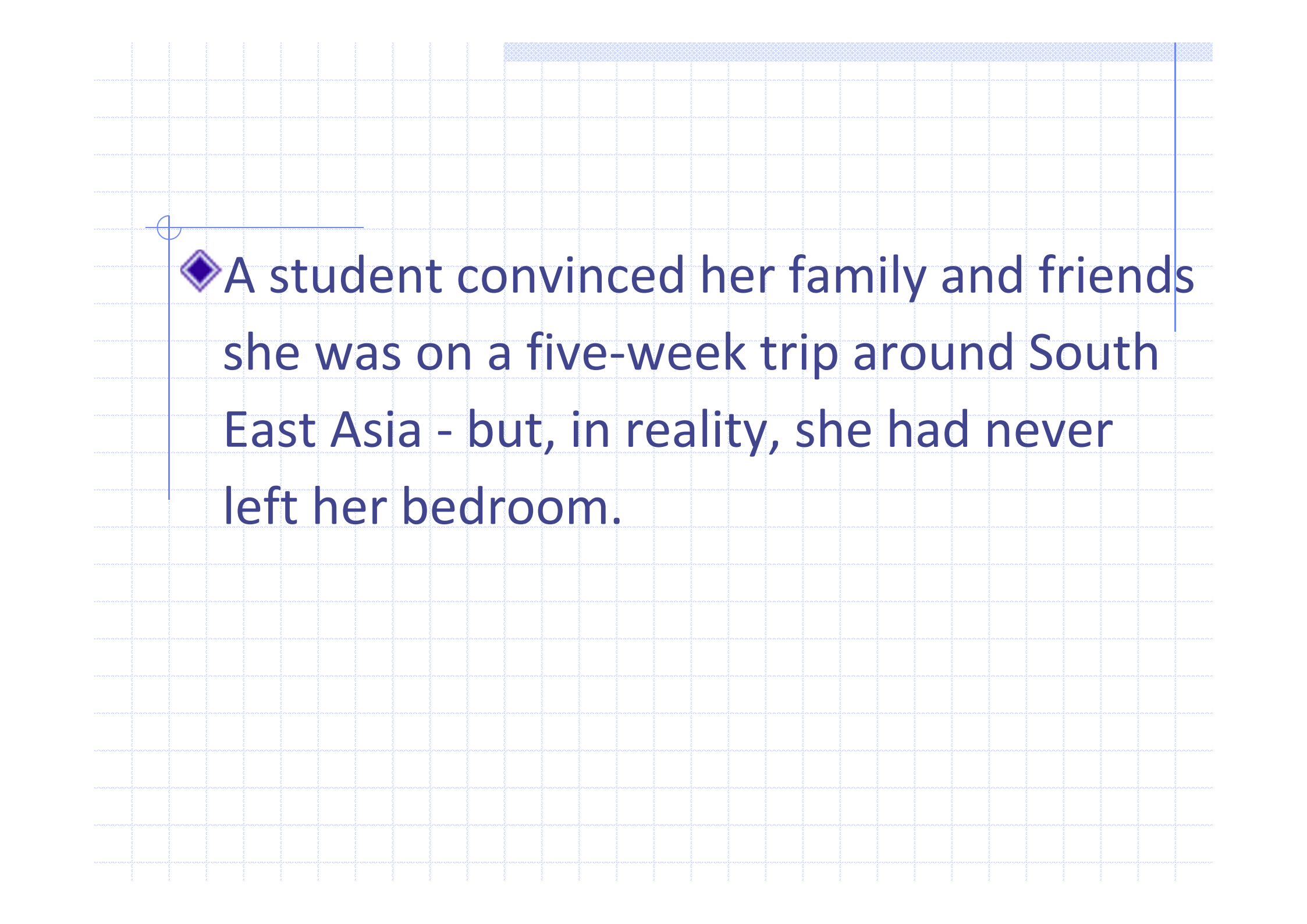


## ◆ Unaccountable algorithm

- How does Facebook deliver the messages on your timeline?

## 2. How to Deconstruct Huge Amount of Information from Different Channels

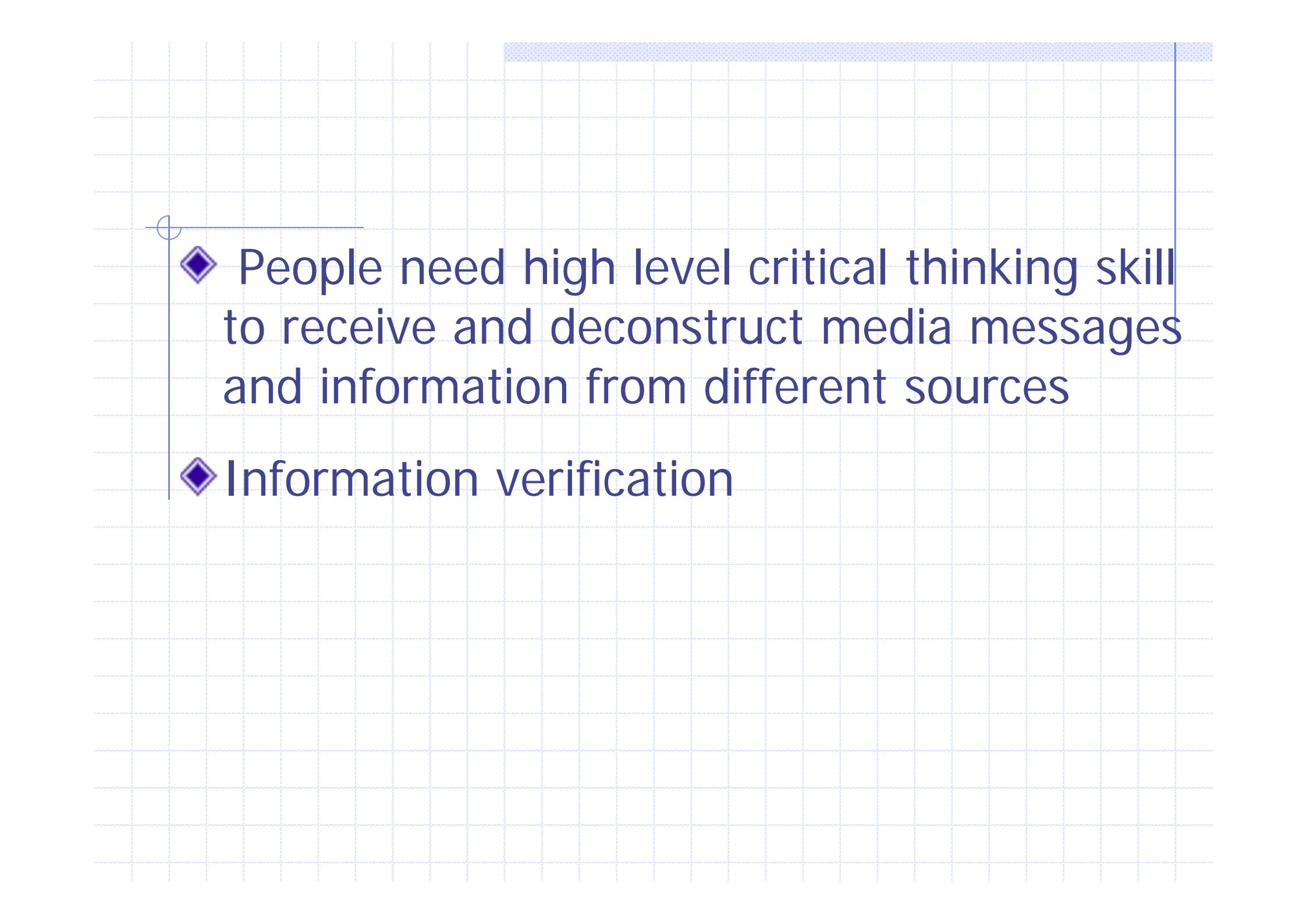
- ◆ Information overload
- ◆ Select, evaluate & synthesize information
  - Filtering?
- ◆ Construct reality → manufacture reality



◆ A student convinced her family and friends she was on a five-week trip around South East Asia - but, in reality, she had never left her bedroom.

## ◆ US Election and fake news

- Content farms
- Social media as major channels for spreading fake news

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- ◆ People need high level critical thinking skill to receive and deconstruct media messages and information from different sources
  - ◆ Information verification

# 3. How to Constructively Use Communication Power?

- ◆ Prosumer (producer + consumer)
- ◆ Ethical participation
  - Rumor, cyber-bullying ...
- ◆ Using the new media for knowledge creation



## ◆ The new industrial revolution

- In the past: every aspiring entrepreneur needed the support of major manufacturer
- Now: anybody with a smart idea and a little expertise can make their ideas a reality

## ◆ Factory in the cloud – DIY factory

- 3D printing impacts manufacturing
- 3D printing and guns

## 4. How to Tackle Online Security Issue

- ◆ Hacking
- ◆ Invasion of privacy
- ◆ Breach of copyright

# 5. How to Overcome Digital Divide or Digital Use Divide

## ◆ Digital Divide

- Low income family; minorities, people in developing countries

## ◆ Digital Use Divide



# From Industrial Society to Knowledge Society

# The Transition to Knowledge Society

- Industrial society → knowledge society
- Most of the population: knowledge workers
- Information as means of production
  
- 2005 UNESCO: *Towards Knowledge Societies*
- The important role of knowledge in building more capable communities

## (1) Human Resources

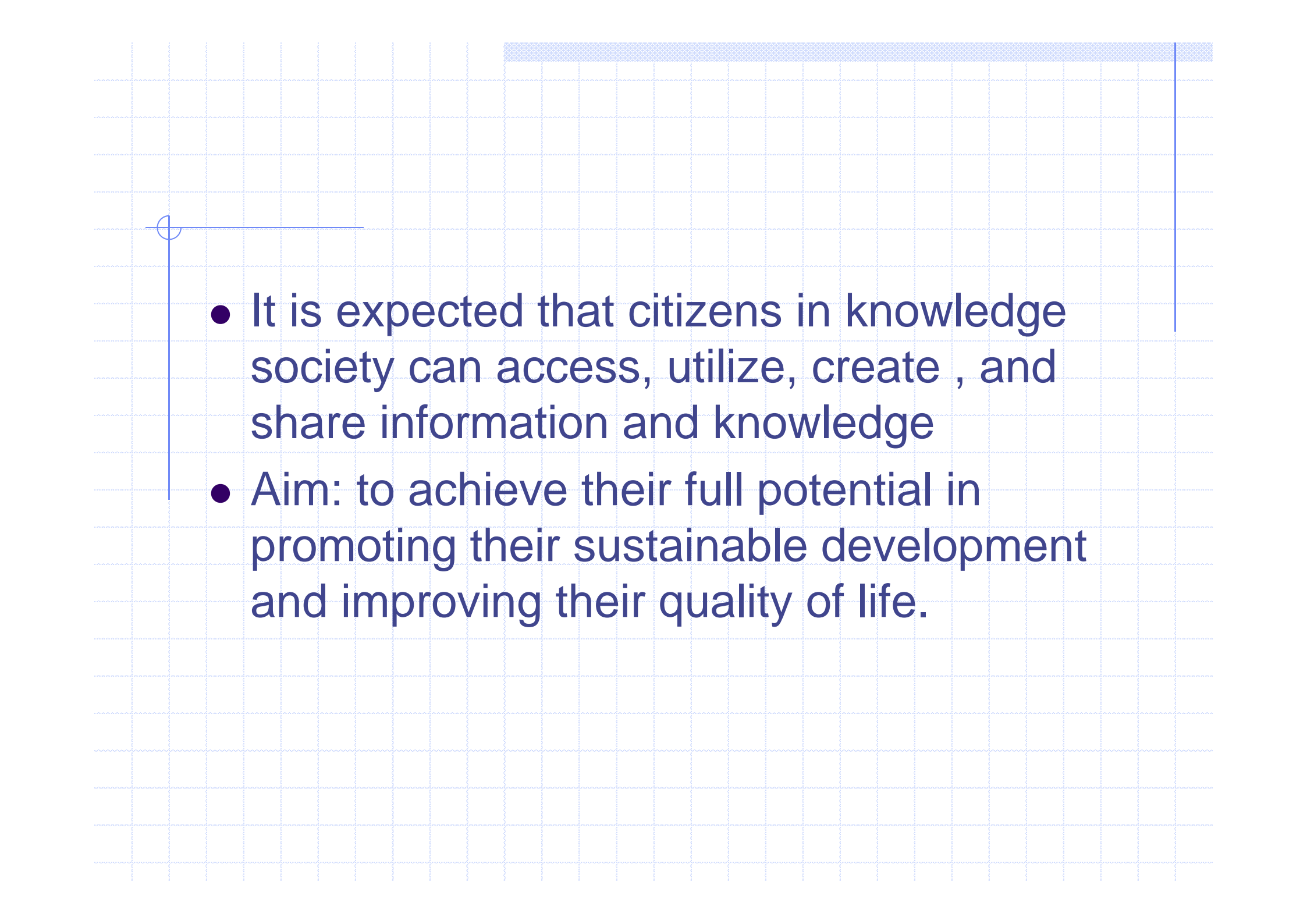
The reception, production and transmission of information/knowledge are essential in social, economic, political and cultural sectors

- Cultivate a media-and-information-literate population becomes essential for the development of a society
- Knowledge economy: competent knowledge workers


## (2) Desirable Knowledge Society

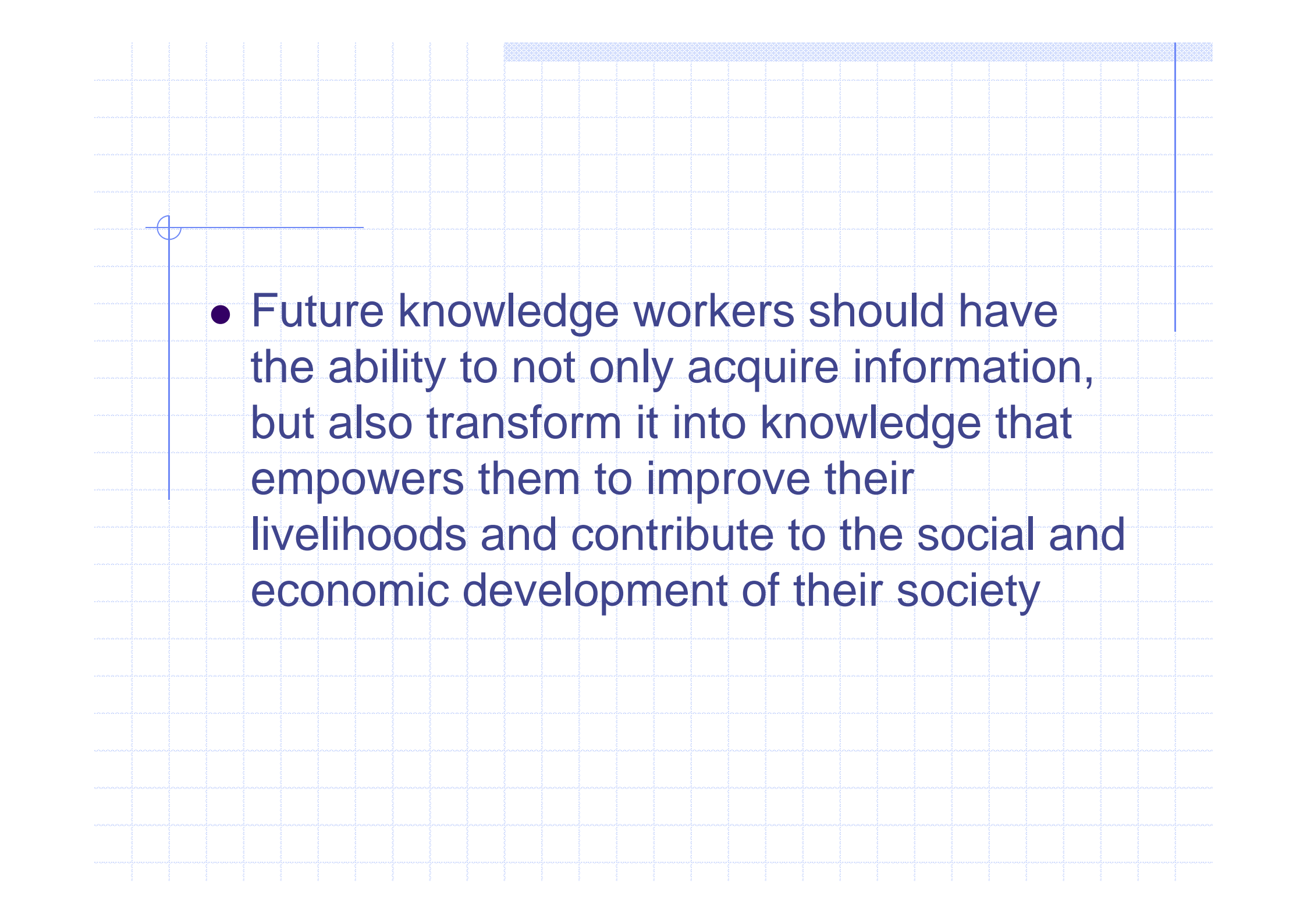
### UNESCO's Mandate on knowledge societies

- Knowledge societies: Equitable, pluralistic, inclusive and participatory
- Based on four major principles:
  - Equal access to quality education for all
  - Universal access to information
  - Cultural and linguistic diversity
  - Freedom of expression

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- It is expected that citizens in knowledge society can access, utilize, create , and share information and knowledge
  - Aim: to achieve their full potential in promoting their sustainable development and improving their quality of life.



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- Media and information are vital for engaging people in the democratic process, building communities and strengthening civil society
  - MIL: A pre-requisite for individuals to exercise their freedom to access information

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- Future knowledge workers should have the ability to not only acquire information, but also transform it into knowledge that empowers them to improve their livelihoods and contribute to the social and economic development of their society



# Changing Learning Mode

# Who is Illiterate?

- ◆ People have not learnt how to learn  
(那些還未學會學習的人)
- ◆ Don't know how to handle information and seek knowledge
- ◆ Don't have the skills of information search, classification and evaluation .....

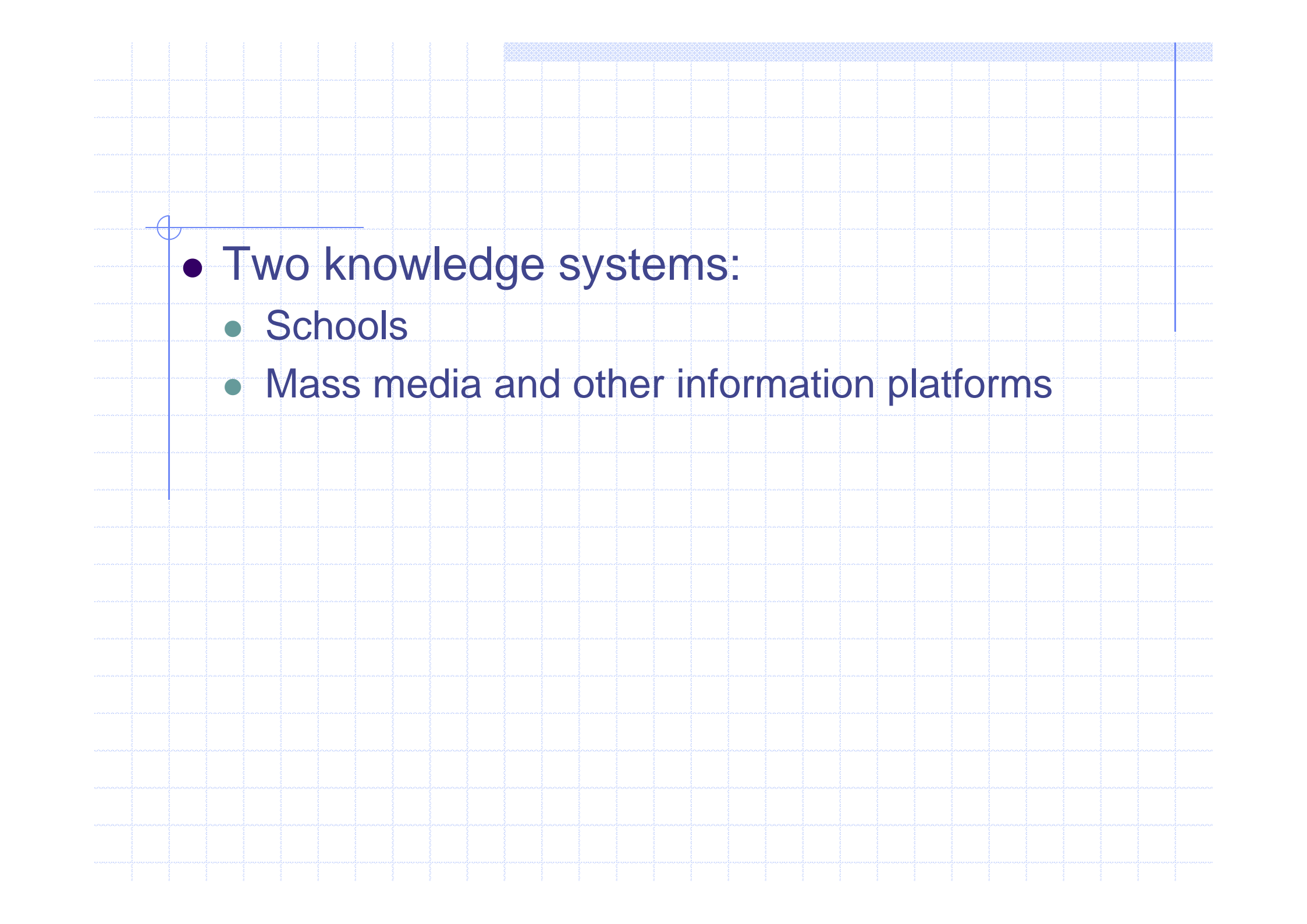
# Changing Learning Mode

- Agricultural society
  - Learned from their parents and community members
- Industrial society
  - Learned in schools



- Knowledge society

- not book learning
- distant learning, schools with no physical buildings
- learn through networked communication technologies (social media, databases, online archives...) in the mobile environment
- life-long learning, adult and kids learn together, yesterday's knowledge becomes irrelevant

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- Two knowledge systems:
    - Schools
    - Mass media and other information platforms

## ● Ben Williamson – Future Curriculum

- “a wikiworld of learning”
- curriculum is not seen as “a core canon or central body of content”
- but is seen as “hyperlinked with networked digital media, popular culture, and everyday interactions”
- The future of schooling will be a network-based distributed system of learning
- IL is essential for self learning and life-long learning



# MIL

## Three Components

- ◆ Access/ Retrieval of Media and Information
- ◆ Evaluation/ Understanding of Media and Information
- ◆ Use/Communication/Create Media and Information

**Table 1: MIL Component One – Access of Media and Information**

<b>Access/ Retrieval of Media and Information</b>	
<b>Access</b>	<ul style="list-style-type: none"><li>- <b>ICT skills: the technical skills needed to use digital technologies and social media</b></li><li>- <b>Information search skills</b></li><li>- <b>Aggregation and curation skills</b></li><li>- <b>Transmedia navigation skills</b></li></ul>
<b>Attention Management</b>	<ul style="list-style-type: none"><li>- <b>Goal awareness: keep track of the goal and focus on highest priority</b></li><li>- <b>Mindful use of the social media: distraction resistance and time consciousness</b></li></ul>

**Table 2: MIL Component Two – Evaluation and Understanding of Media and Information**

<b>Evaluation/ Understanding of Media and Information</b>	
<b>Understanding</b>	<ul style="list-style-type: none"> <li>- Recognizes the impacts of media and information on individual and society</li> <li>- Recognizes that media and information have social, economic, political and cultural implications</li> <li>- Understands the format, institution and audience of media and information</li> <li>- Appreciates media and information content and format in an aesthetic way</li> </ul>
<b>Evaluation and Assessment</b>	<ul style="list-style-type: none"> <li>- Evaluates relevancy, currency, reliability, completeness, accuracy and quality of media and information</li> <li>- Questions in what ways socio-cultural context, political forces, ownership, professional routines, regulations and technologies shape media and information content</li> <li>- Critical thinking skill</li> <li>- Transdisciplinary and systemic analytical skill: multiple perspective and ability to make connections between ideas</li> <li>- Cognitive load management: ability to discriminate and filter information for importance</li> <li>- Verification and triangulation skill (particularly for rumor)</li> <li>- Photo-visual skill</li> </ul>
<b>Organization and Synthesis</b>	<ul style="list-style-type: none"> <li>- Knowledge management</li> <li>- Art of abandonment</li> </ul>

**Table 3: MIL Component Three – Use and Create Media and Information**

<b>Use/Communication/Create Media and Information</b>	
<b>Communication, Use and Participation</b>	<ul style="list-style-type: none"> <li>- Networked communication skills: effective communication and information sharing</li> <li>- Virtual community management</li> <li>- Crowdsourcing techniques</li> <li>- Virtual partnership building</li> <li>- Network smart: understand network structure and boundaries</li> <li>- Online relationship enhancement and networking building</li> <li>- Reflective thinking skill</li> <li>- Ethical use of media and information</li> <li>- Awareness of one's digital footprints</li> <li>- Privacy and security practice</li> <li>- Information application in everyday life</li> <li>- Be aware of invisible audiences</li> <li>- Reputation management</li> </ul>
<b>Creation and Problem Solving</b>	<ul style="list-style-type: none"> <li>- Media and information production skills</li> <li>- Creativity and design mindset</li> <li>- Innovative problem solving skill</li> <li>- Collaboration skill: collective knowledge construction</li> <li>- Spreadability intelligence</li> </ul>
<b>Monitoring and Influence</b>	<ul style="list-style-type: none"> <li>- Criticism and monitoring of media and information</li> <li>- Interacting with bodies that regulate media and information to shape media and information policies</li> </ul>



# Hong Kong Experience

# 「媒體資訊革命」對香港年青人的衝擊：資訊爆炸與資訊混淆

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這篇文章探討香港年青人在新的傳播科技環境下受到甚麼衝擊及應該如何在資訊泛濫的大海中乘浪而行。本文強調在香港推行「媒體資訊素養」的訓練，以協助年青人迎接廿一世紀在學習和生活上的挑戰。「媒體資訊素養」是指分析和使用新興媒體資訊科技的知識和能力。

## The Impact of the "Infomedia Revolution" on the Youth in Hong Kong: Information Explosion and Information Confusion

Dr. Alice Y. L. LEE  
Assistant Professor, Department of Journalism, Hong Kong Baptist University

This article examines the impact of the new infomedia technologies on young people in Hong Kong and discusses how young people can maintain critical autonomy in such an information over-loaded society. This article argues that when information technology is merged with communication technology, there is a need for "infomedia literacy." It is necessary to introduce "infomedia literacy training" in schools to supplement IT education in order to help young people cope with the new technological environment.

## INFOMEDIA LITERACY

An educational basic for young people in the new information age

Alice Y. L. Lee

Hong Kong Baptist University

### Abstract

The aim of this article is to introduce the concept of infomedia literacy, which refers to the ability to process critically all kinds of written information, sound, images, graphics and values transmitted by the new technology. This article argues that when information technology merges with communication technology, there is a need for a new form of literacy. The article is divided into two parts. The first part uses empirical data from Hong Kong to illustrate the necessity of providing infomedia literacy training to young people in schools. Adopting the perspective of socially constructed technology, the second part attempts to conceptualize infomedia literacy and define its rationales, aims,

## 推广“媒体资讯素养”：

## 香港科技汇流时代的扫盲任务

李月蓮

**【内容摘要】** 本文的意图是提出“媒体资讯素养”这个概念，指出在资讯电脑科技和传媒科技汇流的新年代，人们需要一种新的素养。由于社会的主导沟通模式由电脑中介的媒体资讯科技取代，在21世纪，一个人如果不懂得阅读书写而缺乏媒体资讯素养，仍然可以被称为文盲。这篇文章分为两个部分，第一部分以香港为个案，指出新技术带来很多影响，有需要教育市民去和新科技打交道，但现行的资讯科技教育达不到这个目的，有必要增添“媒体资讯素养”的训练课程。第二部分阐释“媒体资讯素养”的内涵，推广“媒体资讯素养”的目的有四，协助大众认识媒体资讯科技的功能及影响，对新科技传递的信息有批判及筛选能力，懂得运用新技术去制作和表达意见，及其具备监察新科技的意识和能力。

**【关键词】** 媒体资讯素养 香港

### Promoting "Infomedia Literacy":

A New Task for Hong Kong in the World of Technology Convergence

By Dr. Alice Y. L. Lee, Assistant Professor, Department of Journalism, Hong Kong Baptist University

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### INFOMEDIA LITERACY

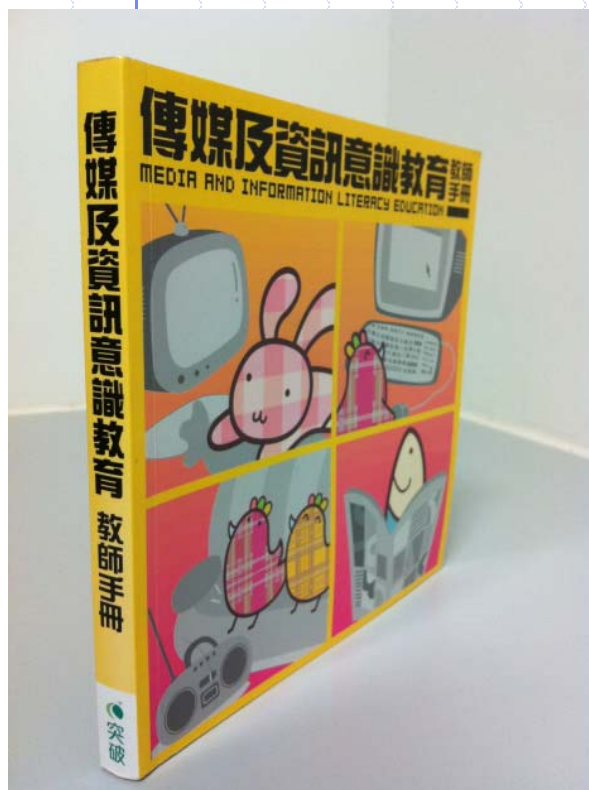
communication technology. The definition of a literate person may need to change in such a new technological environment, and literacy training for the young people should be re-examined accordingly.

In the twenty-first century, young people will be surrounded by new information and communication technologies which deeply affect their lifestyles and ways of thinking. It is important to equip them with appropriate training so that they can make better sense of their new technological environment and maintain critical autonomy in a world of information explosion. The aim of this article is to put forward the concept of 'infomedia literacy' as a vital addition to traditional literacy and media literacy, and discuss its importance to young people's everyday lives. Infomedia literacy is defined as the ability to critically process (analyse and select) written information, sound, images, graphics and values transmitted by all kinds of new computer-assisted multi-media technologies. The article is divided into two parts. The first part argues for the necessity of providing infomedia literacy training to young people. Empirical data collected in Hong Kong through document analysis and in-depth interviews are used to illustrate the need for infomedia literacy. The second part conceptualizes infomedia literacy and defines its aims, scope, key components

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## MILE Textbook (primary school edition) 2001



# 「我是未來領袖」計劃 (The 21st Century Skills Learning: Creative Information Technology Education Project)

- ◆ 運用資訊科技進行傳媒素養教育
- ◆ (Use information technology to teach ML)

(常識科+電腦科)





- ◆ 建立教學網站 (design online curriculum & establish a Web platform)
- ◆ 跨學科合作 (常識科與電腦科)  
(combining the media literacy section in General Studies and the ICT literacy section in Computer Studies)
- ◆ 採用新資訊科技教學 (電子書、手提電腦、iPad、互聯網討論)
  - 網上看教材
  - 網上討論
  - 網上做功課
  - 網上分享製作



# The Hong Kong Paediatric Society: Health Literacy

- ◆ Media and information literate children and Adolescents



# Hong Kong Schools

## ◆ IL Education:

- Education for all
- Information for all

◆ Young people will use information and information technology ethically and effectively

# Outcomes

- ◆ Individual level: media and information literate (wise media and information user)
- ◆ Societal level: informed and responsible citizen
- ◆ Academic aspect: active learning; lifelong learning; conducting research
- ◆ Professional aspect: competent knowledge worker



Thank You!

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