



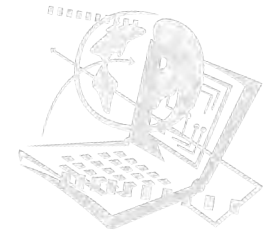
KELAS VIRTUAL DI ERA RI 4.0

Prof. Herman Dwi Surjono, Ph.D.
<http://blog.uny.ac.id/hermansurjono>



SEMINAR NASIONAL PENGEMBANGAN SDM
BKKBN PERWAKILAN DIY
28 November 2019

Outline



- Digital di Indonesia 2019
- Era RI 4.0 dan Kompetensi abad 21
- Konsep Virtual Classroom
- Penerapan e-Learning
- Blended Learning



Digital in Indonesia 2019



JAN
2019

INDONESIA

THE ESSENTIAL HEADLINE DATA YOU NEED TO UNDERSTAND MOBILE, INTERNET, AND SOCIAL MEDIA USE



TOTAL
POPULATION



268.2
MILLION

URBANISATION:
56%

MOBILE
SUBSCRIPTIONS



355.5
MILLION

vs. POPULATION:
133%

INTERNET
USERS



150.0
MILLION

PENETRATION:
56%

ACTIVE SOCIAL
MEDIA USERS



150.0
MILLION

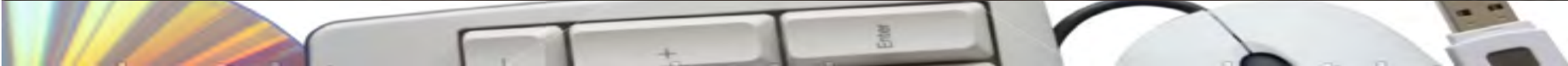
PENETRATION:
56%

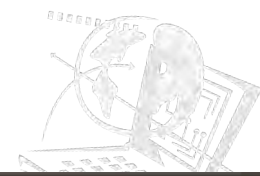
MOBILE SOCIAL
MEDIA USERS



130.0
MILLION

PENETRATION:
48%





JAN
2019

FREQUENCY OF INTERNET USE

HOW OFTEN INTERNET USERS ACCESS THE INTERNET FOR PERSONAL REASONS (ANY DEVICE)



EVERY
DAY



79%

AT LEAST ONCE
PER WEEK



14%

AT LEAST ONCE
PER MONTH



6%

LESS THAN ONCE
PER MONTH



1%

we
are
social

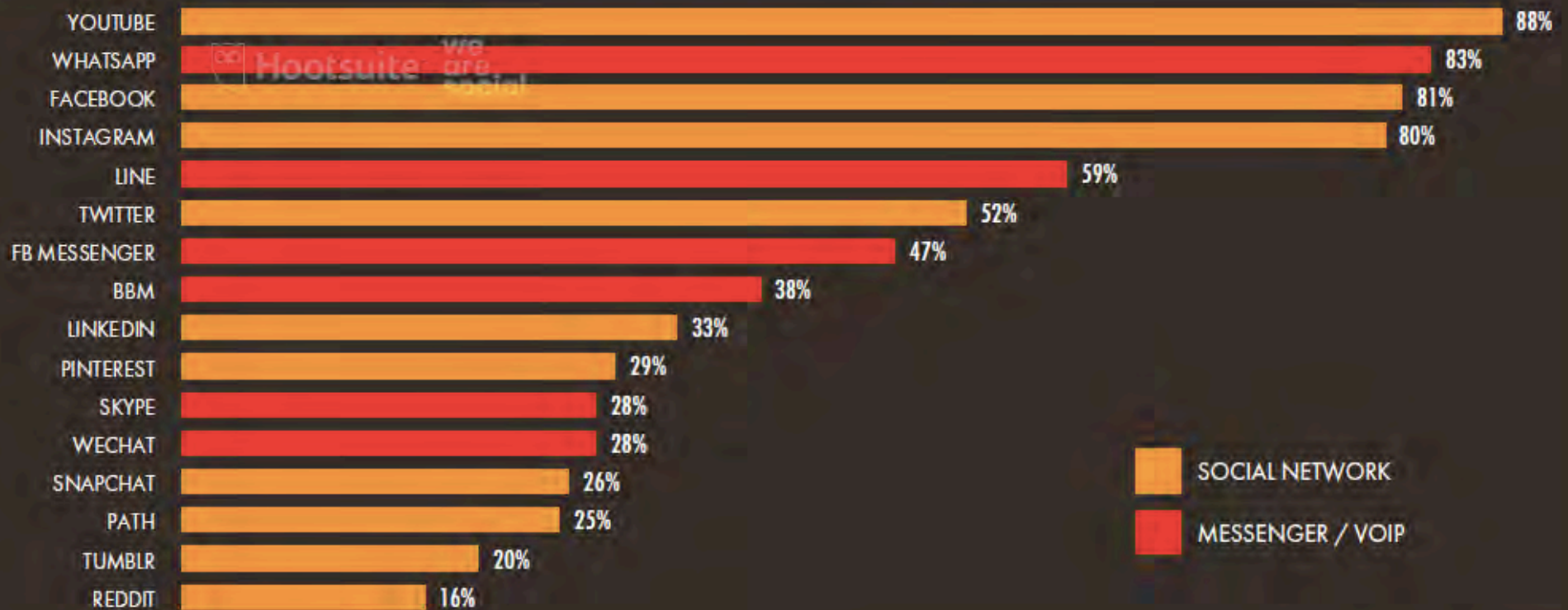




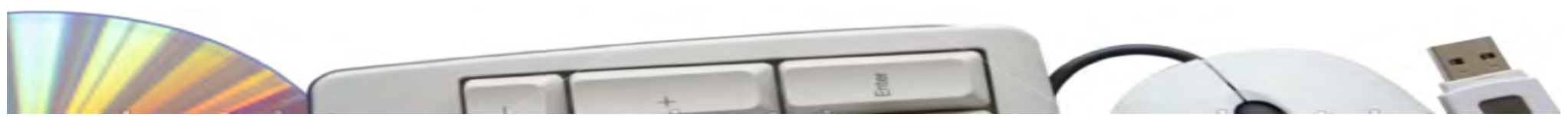
**JAN
2019**

MOST ACTIVE SOCIAL MEDIA PLATFORMS

PERCENTAGE OF INTERNET USERS WHO REPORT USING EACH PLATFORM [SURVEY BASED]



SOCIAL NETWORK
 MESSENGER / VOIP

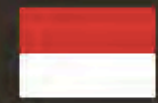




JAN 2019

TIME SPENT WITH MEDIA

AVERAGE DAILY TIME SPENT CONSUMING AND INTERACTING WITH MEDIA [SURVEY BASED]



AVERAGE DAILY TIME SPENT USING THE INTERNET VIA ANY DEVICE



8H 36M

we are social

AVERAGE DAILY TIME SPENT USING SOCIAL MEDIA VIA ANY DEVICE



3H 26M

global web index

AVERAGE DAILY TV VIEWING TIME (BROADCAST, STREAMING AND VIDEO ON DEMAND)



2H 52M

comscore

AVERAGE DAILY TIME SPENT LISTENING TO STREAMING MUSIC



1H 22M



2019 This is What happens in an INTERNET MINUTE

facebook
973,000 Logins

 481,000
Tweets Sent


 174,000
Scrolling Instagram



 **YouTube**
4.3 Million Videos Viewed

 25,000 GIFs sent
via Messenger

 2.4 Million
Snaps Created

 38 Million
Messages

 18 Million
Text Messages

 Google play
 Available on the
App Store

375,000
Apps
Downloaded

Google
3.7 Million
Search Queries

 187 Million
Emails Sent

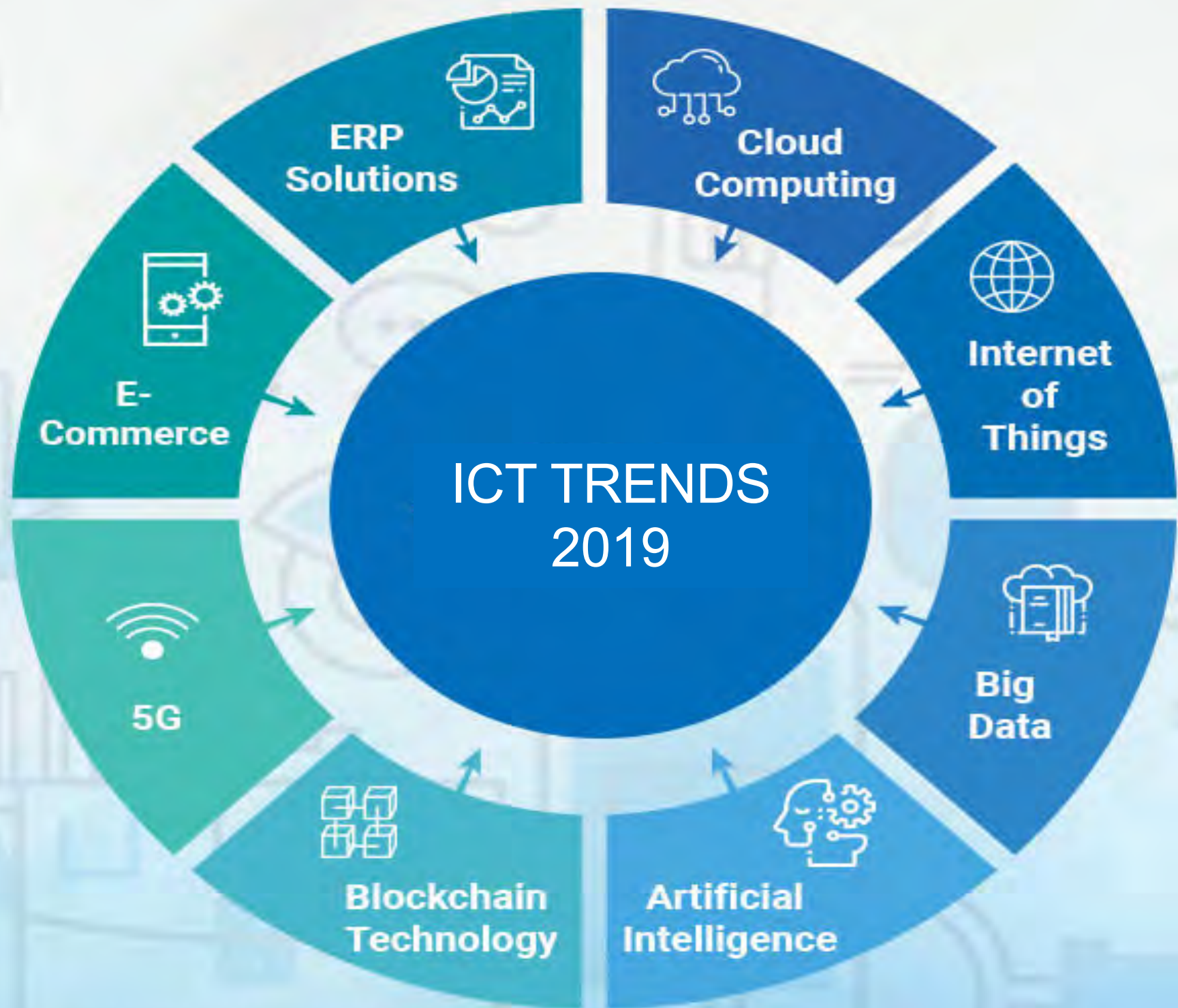
amazon echo
67 Voice-Fist
Devices Shipped

 1.1 Million
Tinder
Swipes

 \$862,823
Spent
Online

N
266,000
Hours
Watched

 **twitch**
936,073
Views



Education 4.0

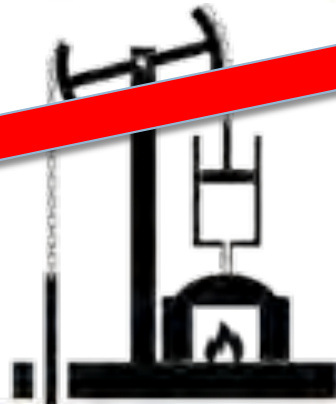


Lectures and memorization

Internet-enabled learning

Knowledge-producing education

Innovative-producing education



1st

2nd

3rd

4th

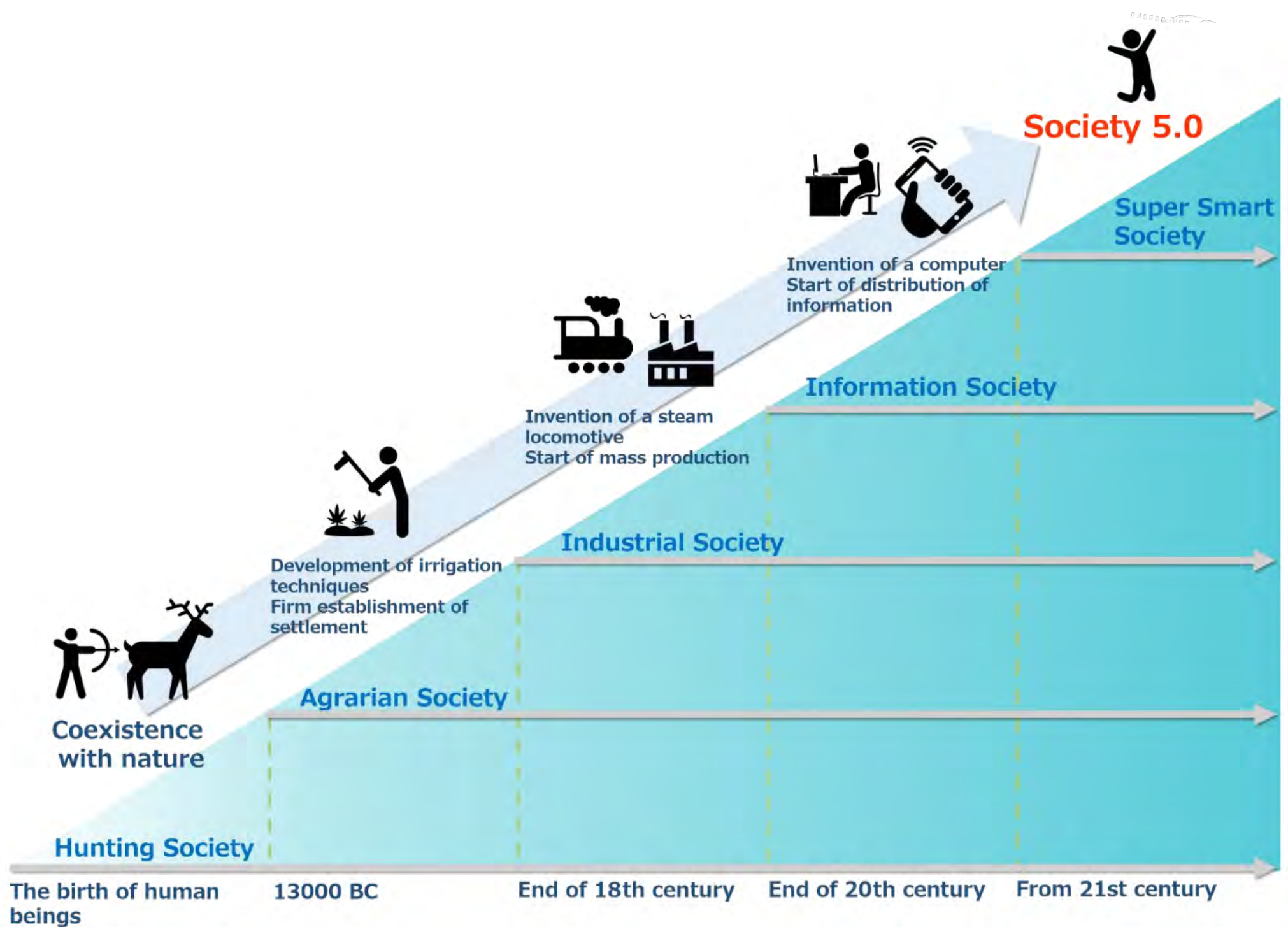
Mechanization, water power, steam power

Mass production, assembly line, electricity

Computer and automation

Cyber Physical Systems





The birth of human beings

13000 BC

End of 18th century

End of 20th century

From 21st century

Hunting Society

Agrarian Society

Industrial Society

Information Society

Super Smart Society

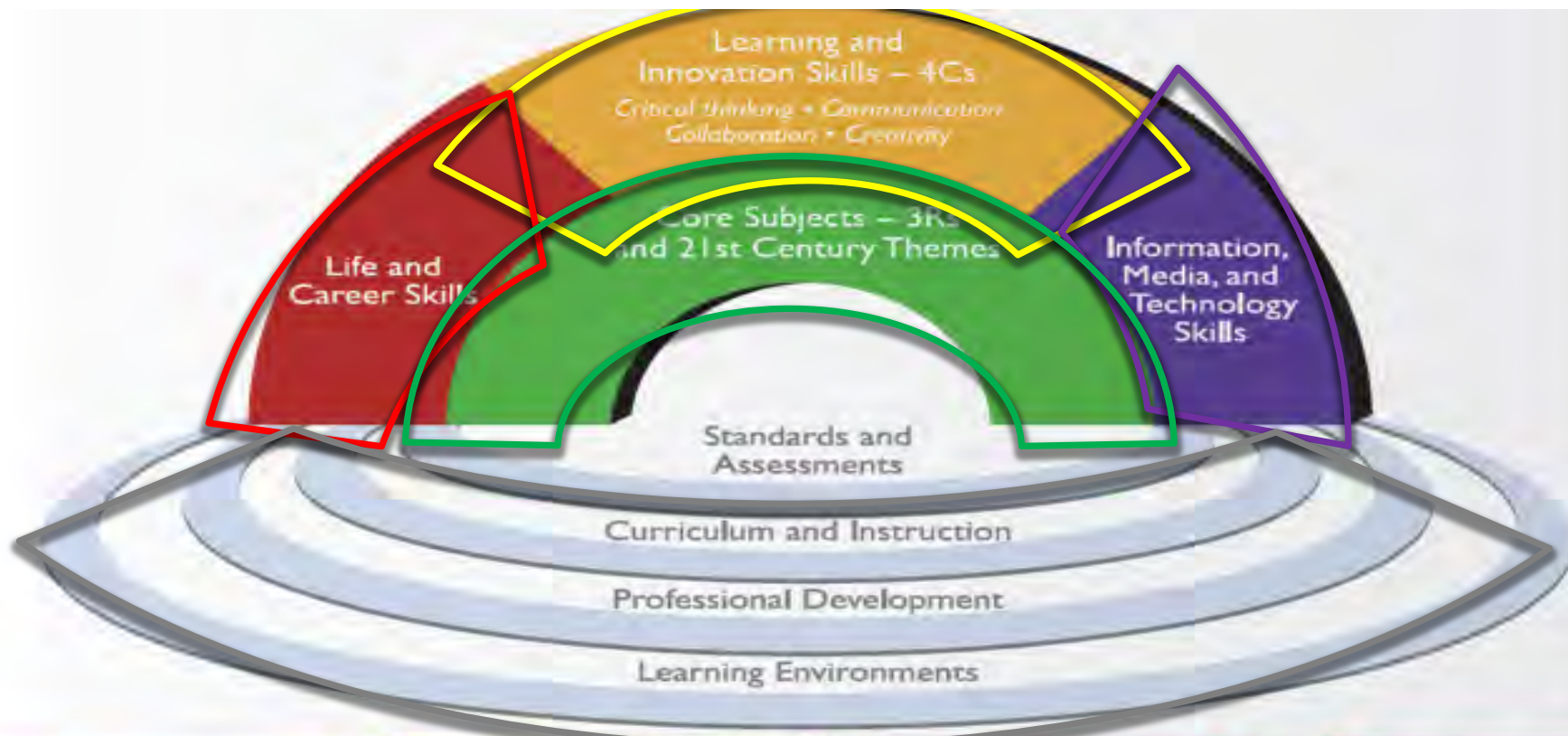
Society 5.0

Invention of a computer
Start of distribution of information

Invention of a steam locomotive
Start of mass production

Development of irrigation techniques
Firm establishment of settlement

Coexistence with nature



- Creativity**
- Critical Thinking**
- Collaboration**
- Communication**

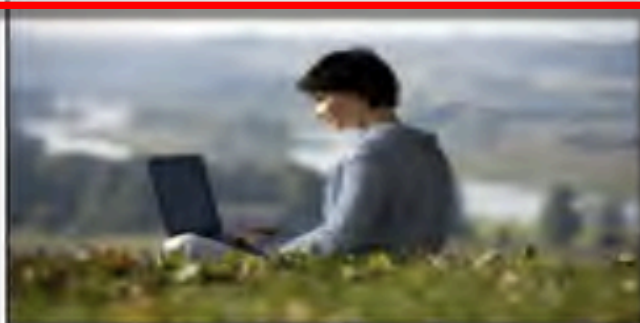
- Media Literacy**
- Information Literacy**
- Information Communication Technology Literacy**

- Productivity & Accountability**
- Leadership & Responsibility**
- Flexibility & Adaptability**
- Social & Cross Cultural Skills**
- Initiative & Self Direction**

- Environmental Literacy**
- Global Awareness**
- Financial Literacy**
- Health Literacy**
- Civic Literacy**

Keterampilan abad 21st dan pendukung

What is Education 4.0?



Anywhere Anytime



Personal



Flexible Delivery



Peers and Mentors



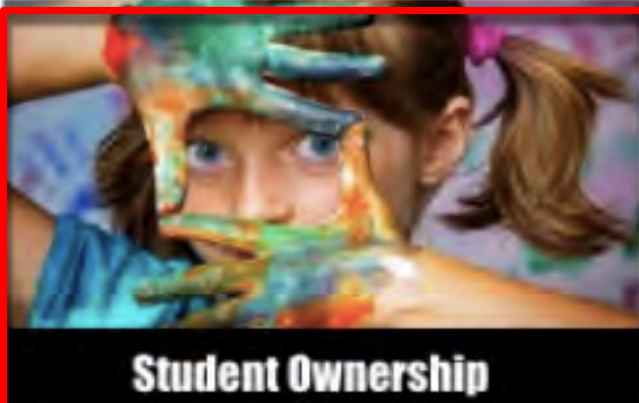
Why/Where not What/How



Practical Application



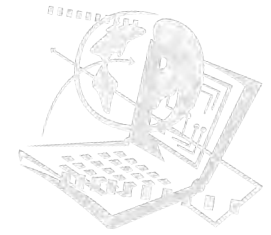
Modular and Projects



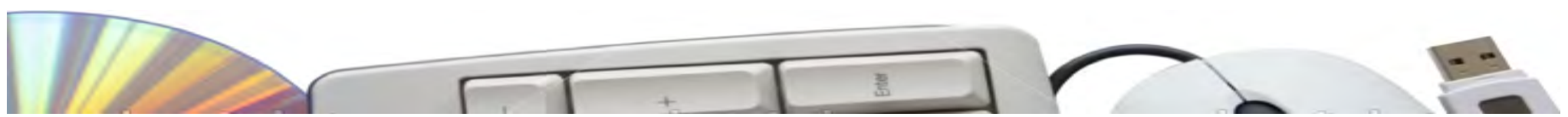
Student Ownership



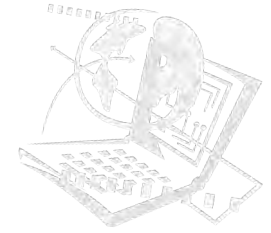
Evaluated not Examined



KONSEP



What is Virtual Classroom (VC)



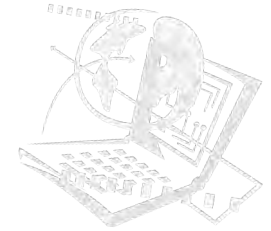
A virtual classroom is an

online learning environment that allows for
live interaction

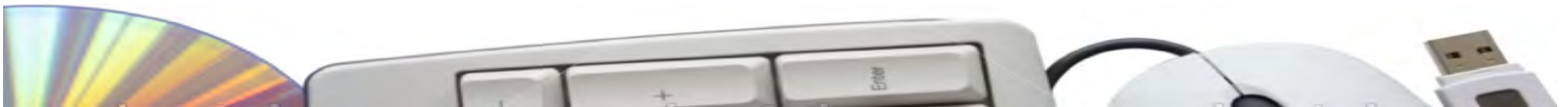
between the tutor and the learners as they are
participating in learning activities.



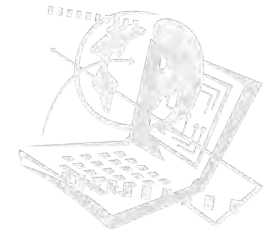
Karakteristik Instruksional VC



- Interaksi
- Kolaborasi
- Sinkron dan Asinkron
- Variasi konten
- Variasi aktivitas
- Umpan balik positif dan konstruktif



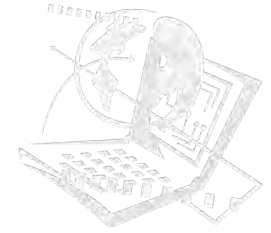
Online learning/e-Learning



- Online learning/e-Learning memungkinkan belajar ANYWHERE, ANYTIME, ANYONE
- Menggunakan TI



Komponen e-Learning



e-Learning

1

Sarpras: Aplikasi/sistem, Infrastruktur (bw, wifi, server), Fasilitas TI

2

SDM: Dosen/guru, Mhs/siswa, Tutor/asisten, Ahli (materi, instruksional), Teknisi

3

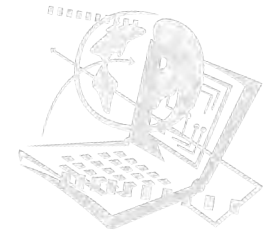
Konten: Materi Pembelajaran, Aktivitas/interaksi, Strategi dan evaluasi

4

Support: Penjaminan Mutu dan Tata Kelola



Konten E-learning



□ Learning Resources (Sumber Belajar)

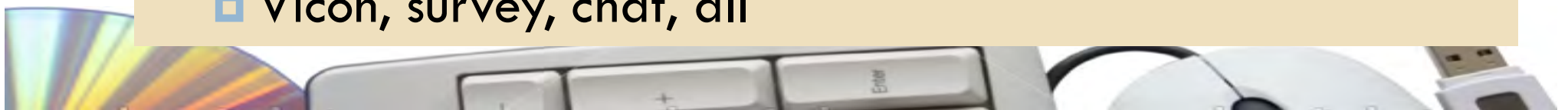


- Materi/bahan ajar berbentuk multimedia (teks, images, animasi, video) (Slide presentasi, LKS, modul, dll)
- Bahan pendukung (Kurikulum, Silabus, RPP, dll)
- Link untuk pengayaan

□ Aktivitas/Interaksi



- Forum (diskusi, perkenalan, refleksi, informasi)
- Tugas (tugas essay, tugas online, tugas offline)
- Quiz (PG, BS, isian, mencocokkan)
- Vicon, survey, chat, dll



Student Engagement dalam E-learning



Emosi + Interaktif + Sosial



Sumber: <http://iversity.org/>





MOOCs

massive open online courses will allow millions of people to take the same course at once from anywhere in the world



Mobile learning

courses and learning objects will become accessible on mobile devices that will allow to share knowledge



<https://www.td.org/Publications/Magazines/TD/TD-Archive/2013/12/Webex-7-The-nde-Shaping-E-Learning>
<http://elearningindustry.com/elearning-future-what-will-elearning-look-like-2015>
<http://elearningindustry.com/tags/elearning-future>



http://3rdclass.com/ve_do/gamification



Gamification

courses will include games, challenges, interactive elements, opportunities to develop strategies and concepts, immediate feedback and characters with distinct personalities



THE FUTURE OF E-LEARNING

Social learning

social media will be more integrated in the learning environment, Facebook used to provide materials, intersession activities, to build learning communities, Twitter for introductions, pre-training preparation and instruction, conversations, YouTube for training videos, Instagram to share photos, presentations, charts and schemes

Personalization

teachers and educators will implement a more personalized approach to teaching and training, based on each individual's unique competencies and learning preferences

HOW
**PERSONALIZED
LEARNING**
CAN HELP STUDENTS



Wearable learning

technologies like Google Glass and other wearable tech devices will become so readily available to permeate learning environments

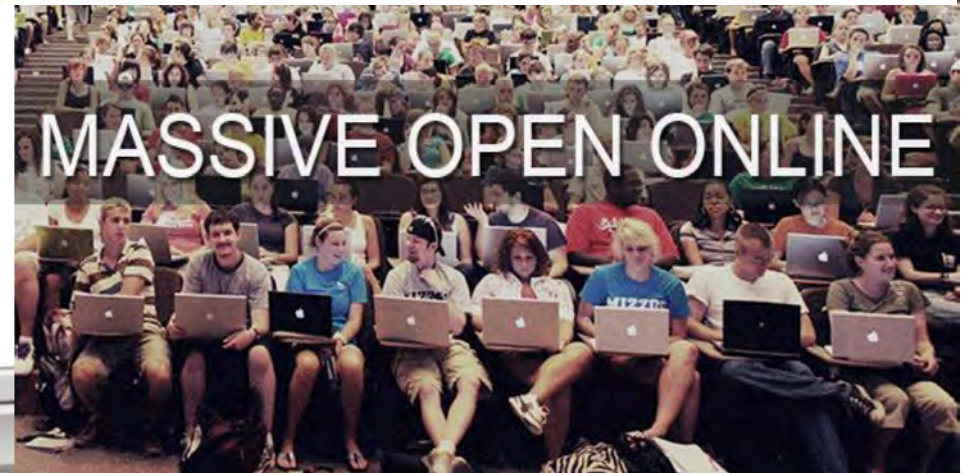
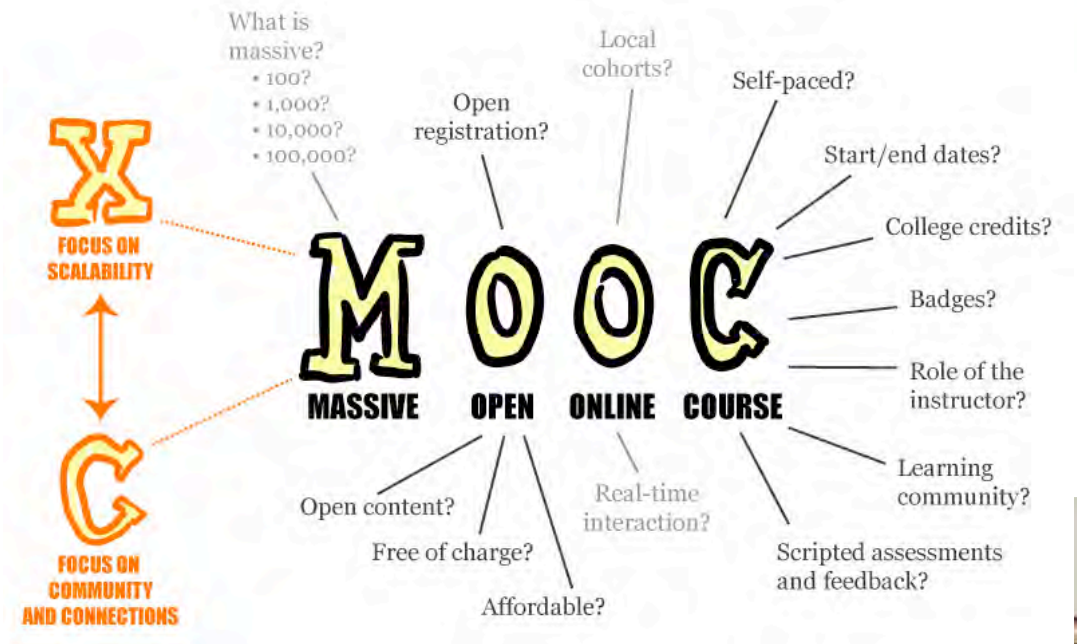


<http://elearninginfographics.com/personalized-learning-can-benefit-students-infographic/>

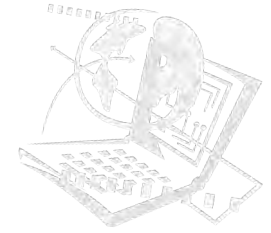
Cloud-based E-Learning



- Cloud Computing: Penggunaan berbagai layanan (platform, penyimpanan, software, server) yang diakses melalui jaringan internet.
- Aplikasi e-learning dan penyimpanan SBD.
- Google classroom, Edmodo, Moodle, MOOC



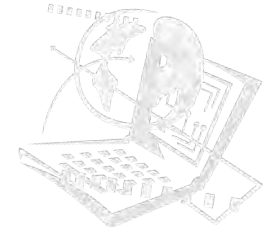
Personalization



- Pembelajaran Optimal, bila:
 - ▣ Fokus kebutuhan individu: materi, gaya belajar, waktu, alur dan jenis presentasi, kesulitan, dll.
 - ▣ Adaptasi dengan kebutuhan individu.
- Adaptive Learning



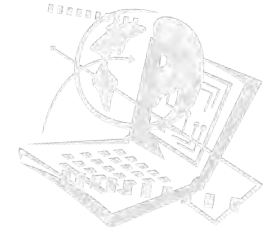
m-Learning, u-Learning



- Populasi perangkat bergerak yg terkoneksi internet semakin meningkat.
- Kebutuhan belajar kapan saja dan dimana saja.
- E-book, DLR



Learning Analytics

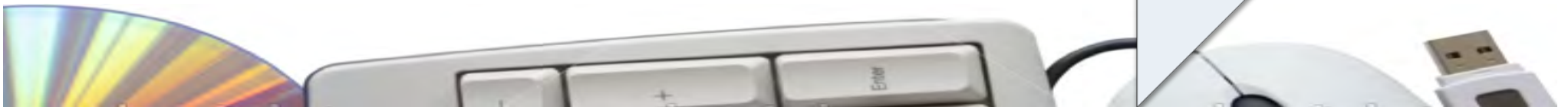


Collecting, measuring, analyzing, and reporting data about learners and their learning contexts.

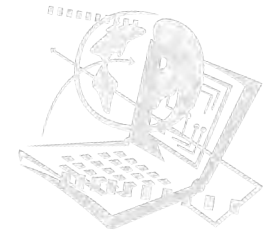
Predict student performance based on data trends and patterns.

Evaluate student performance so that instruction will be tailored to suit their needs.

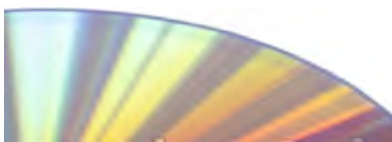
Customize learning experiences



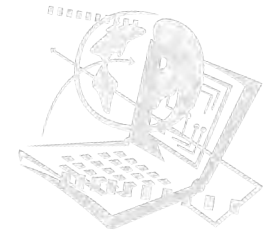
Augmented Reality



- Teknologi yg menambahkan objek digital ke dalam lingkungan nyata.
- Materi pembelajaran yg rumit, abstrak, kompleks menjadi menarik dan jelas.
- Google Sky Map, GeoGoogle



Gamification



- Penerapan permainan dinamis dalam konteks non-game.
- Meningkatkan:
 - ▣ Motivasi
 - ▣ User engagement
- Dimanfaatkan di e-learning.

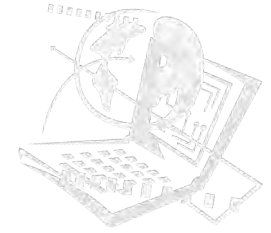


Blended Learning

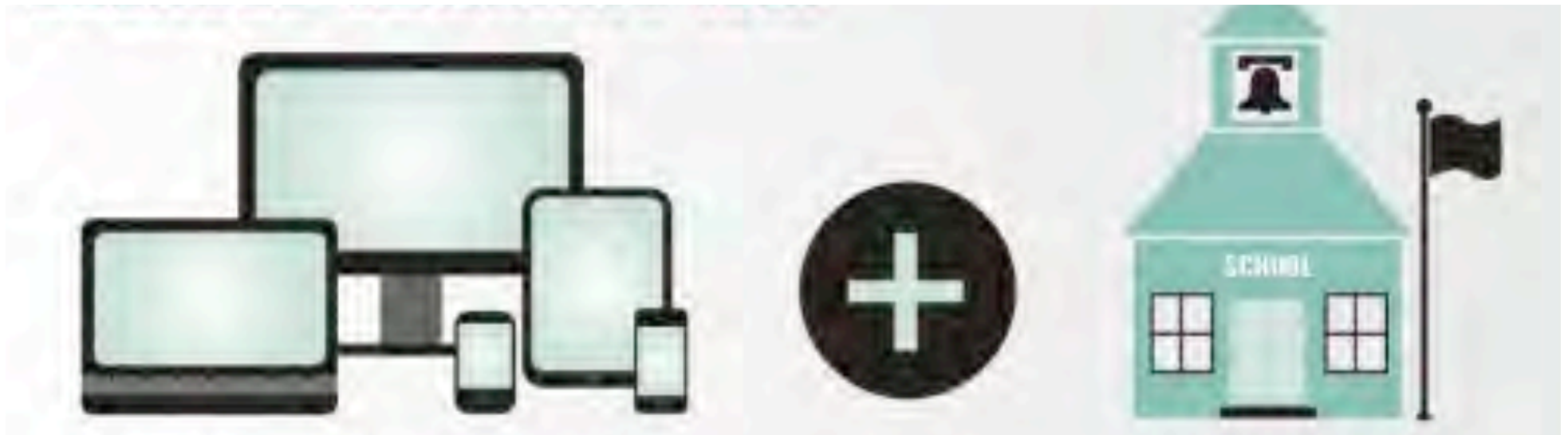
combining the best teaching methods



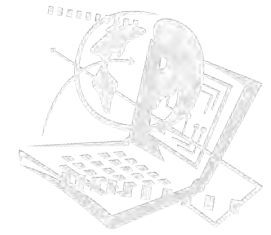
Blended Learning



- Pembelajaran yang menggabungkan aspek-aspek terbaik dari pembelajaran tatap muka dengan keunggulan pembelajaran online.



Kerangka Blended Learning



Waktu sama
(Sinkronous)

Waktu beda
(Asinkronous)

Tempat sama
(Tatap muka)



Kelas/Lab
Kuliah terjadwal
Bimb Tradisional

Studio/Bengkel
Latihan lab
Praktik



Blended Learning

Tempat beda
(pakai ICT)

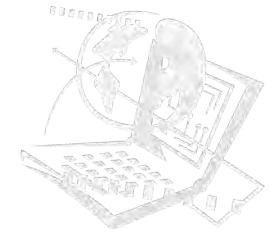


Kelas/Lab virtual
Video konferen
Chat/WA/FB

LMS
Blog/Youtube
Forum diskusi



Kategori Online dan F2F



33

Proporsi Online	Proporsi F2F	Kategori
0 %	100 %	Pembelajaran konvensional/ tradisional
1 s.d. 29 %	71 – 99 %	Pembelajaran difasilitasi Online
30 s.d. 79 %	21 sd 70 %	Blended Learning
80 s.d. 100%	0 sd 20 %	Pembelajaran <i>Online</i>



Kategori Online Learning (updated-2015)



1 **Classroom Course:** Aktivitas (kuliah, lab, bengkel, studio) dilaksanakan secara tatap muka sesuai jadwal

2 **Synchronous Distributed Course:** Sebagian mhs mengikuti aktivitas tatap muka dan mhs lain dari luar mengikuti melalui Vicon

3 **Web-Enhanced Course:** Aktivitas dilakukan secara tatap muka yang diperkaya/ditambah dengan aktivitas online

4 **Blended Classroom Course:** Aktivitas dilakukan secara tatap muka, namun ada sebagian yang diganti dengan online

5 **Blended Online Course:** Aktivitas dilakukan secara online, namun ada sebagian yang diganti dengan tatap muka



6 **Online Course:** Semua aktivitas dilakukan sepenuhnya secara online

TERIMA KASIH

