



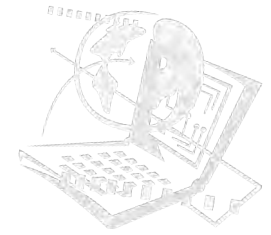
# PEMBELAJARAN ONLINE DI ERA RI 4.0

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



SEMINAR NASIONAL PENDIDIKAN DAN PEMBELAJARAN  
**FKIP UNIVERSITAS MUHAMMADIYAH PONOROGO**  
**29 Agustus 2019**

# Outline



- Era RI 4.0 dan Kompetensi abad 21
- Rekomendasi Rakernas 2019
- Masa depan E-learning
- Konsep e-Learning
- Blended Learning



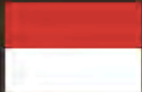
# Digital in Indonesia 2019



**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



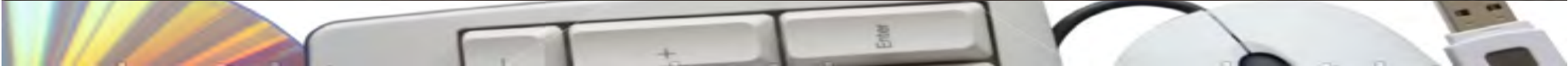
**130.0**  
MILLION

PENETRATION:  
**48%**

we  
are  
social

we  
are  
social

**SOURCES:** POPULATION: UNITED NATIONS; U.S. CENSUS BUREAU. **MOBILE:** GSM.A INTELIGENCE. **INTERNET:** INTERNETWORLDSTATS; ITU; WORLD BANK; CIA WORLD FACTBOOK; EUROSTAT; LOCAL GOVERNMENT BODIES AND REGULATORY AUTHORITIES; MIDEASTMEDIA.ORG; REPORTS IN REPUTABLE MEDIA. **SOCIAL MEDIA:** PLATFORMS' SELF-SERVE ADVERTISING TOOLS; PRESS RELEASES AND INVESTOR EARNINGS ANNOUNCEMENTS; ARAB SOCIAL MEDIA REPORT; TECHRASA; NIKI ACHAEI; ROSE.RU. (ALL LATEST AVAILABLE DATA IN JANUARY 2019).





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

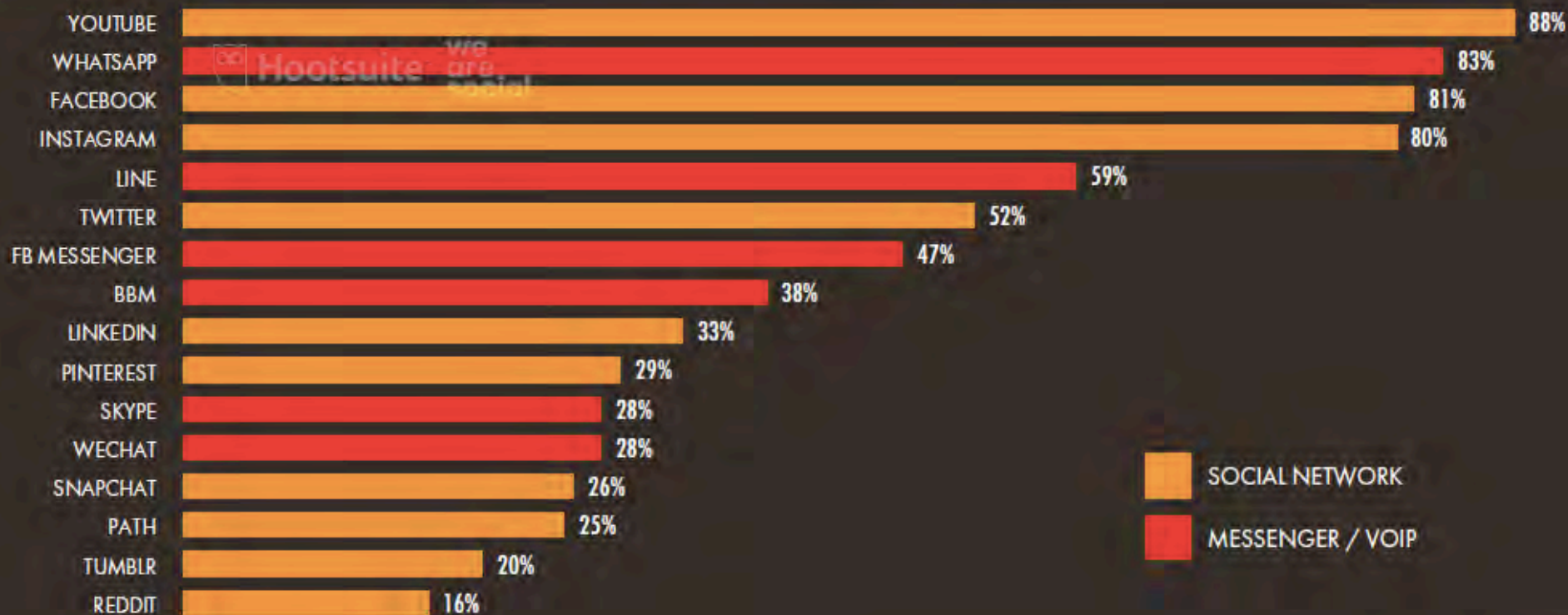




**JAN  
2019**

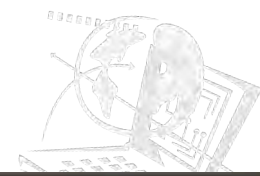
# MOST ACTIVE SOCIAL MEDIA PLATFORMS

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



SOCIAL NETWORK  
 MESSENGER / VOIP

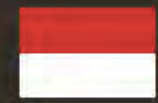




JAN 2019

# 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



Photo: Lori Cullen



# 3 hal yg paling ditakuti mahasiswa saat ini



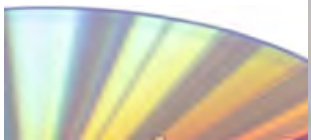
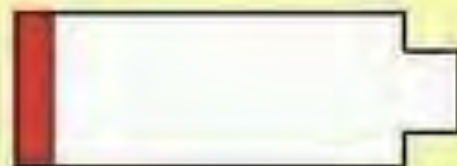
1

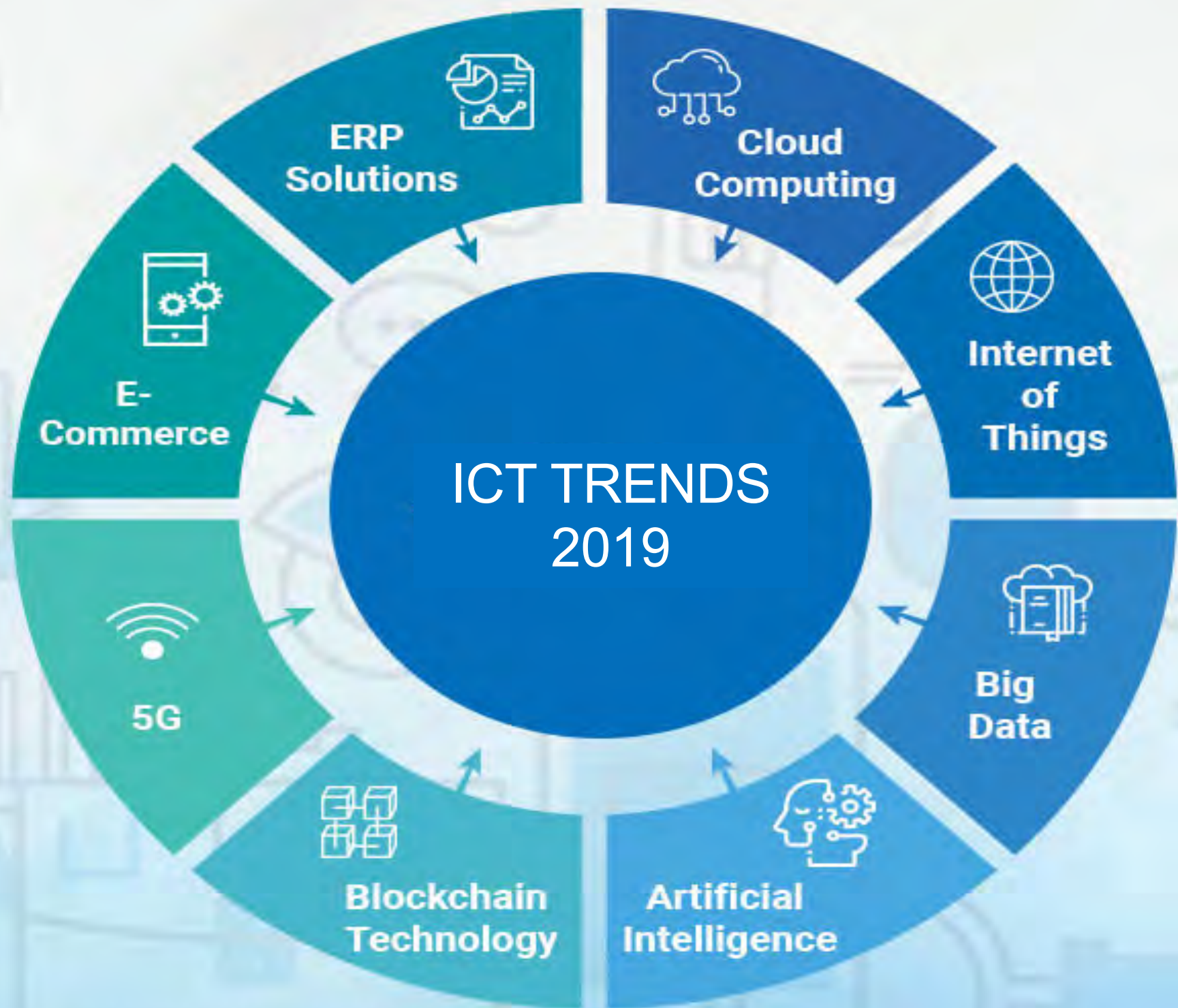


2



3





# Education 4.0

1.0

2.0

3.0

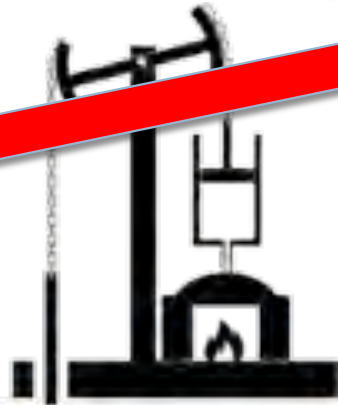
4.0

Lectures and memorization

Internet-enabled learning

Knowledge-producing education

Innovative-producing education



1st

2nd

3rd

4th

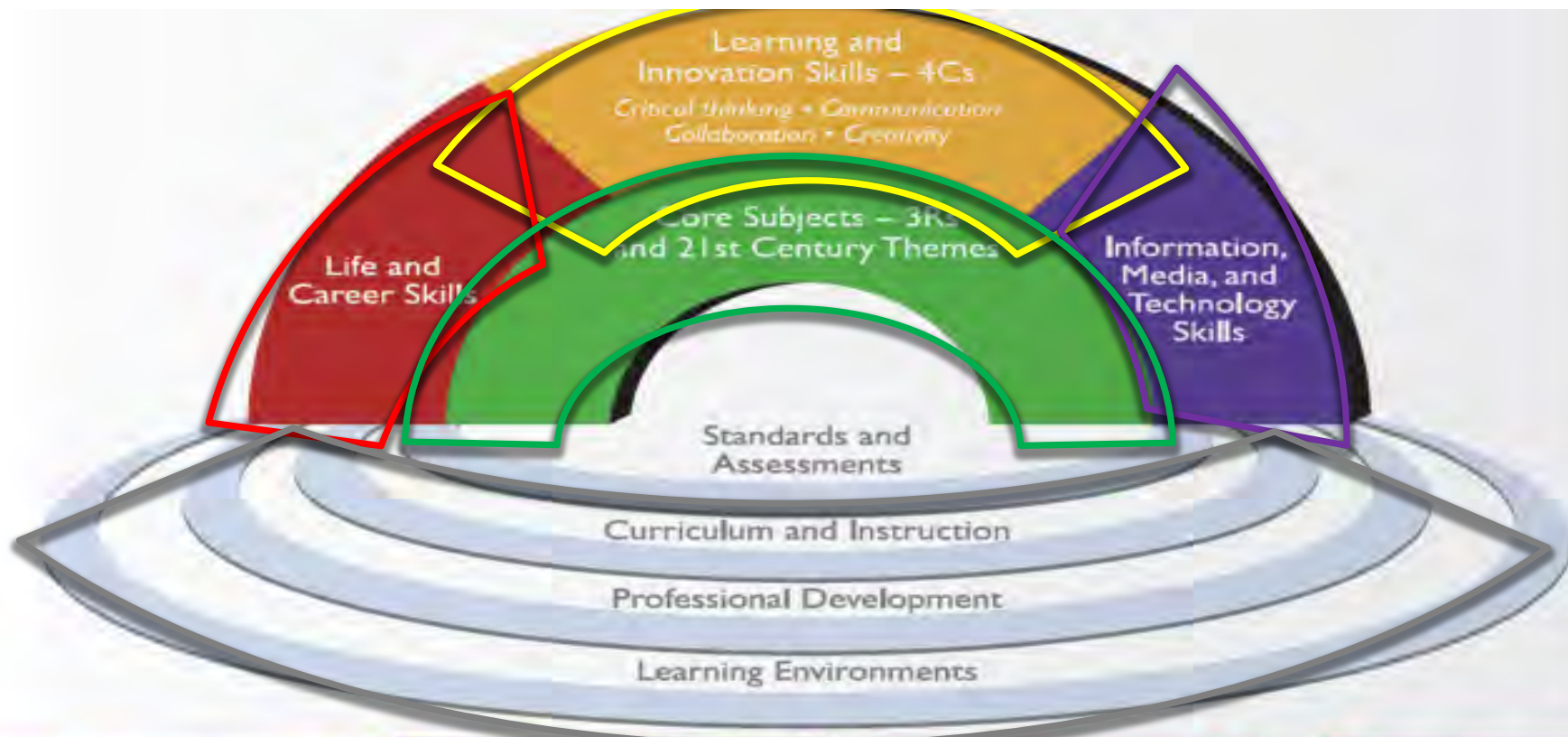
Mechanization, water power, steam power

Mass production, assembly line, electricity

Computer and automation

Cyber Physical Systems





**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**

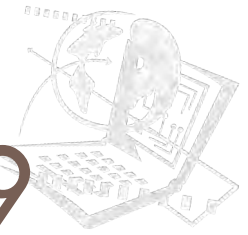
**Financial Literacy**

**Health Literacy**

**Civic Literacy**

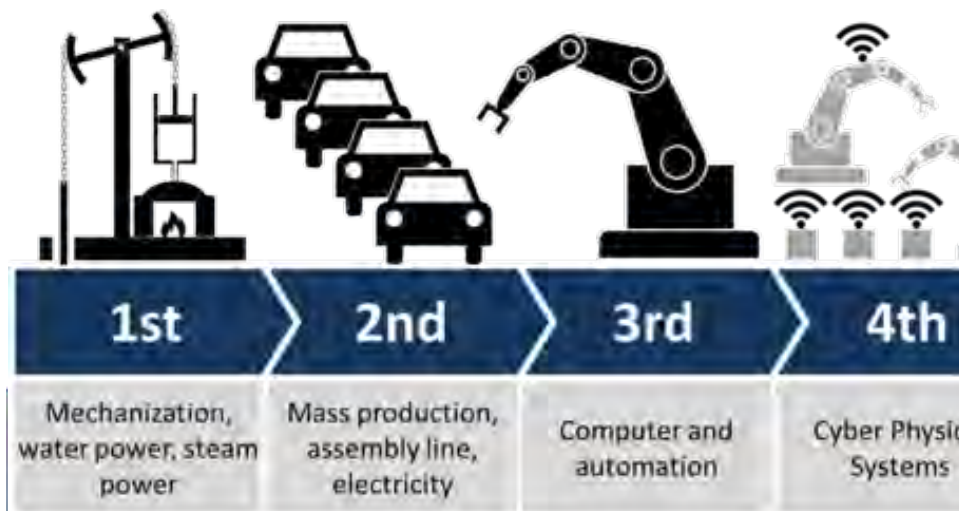
**Keterampilan abad 21<sup>st</sup> dan pendukung**

# Rekomendasi Rakernas Kemenristekdikti 2018 dan 2019

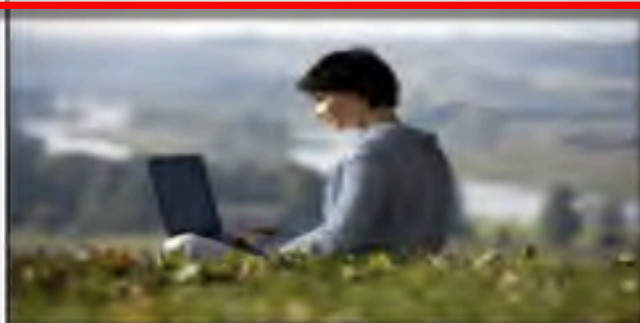


- Perguruan Tinggi agar mulai/segera menyiapkan **Pembelajaran Daring (e-Learning dan Blended Learning)**

## DISRUPTING HIGHER EDU



# 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**



### 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



### Gamification

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

[http://3rdclass.com/ve\\_do/gamification](http://3rdclass.com/ve_do/gamification)



# 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

### Wearable learning

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

### HOW PERSONALIZED LEARNING CAN HELP STUDENTS

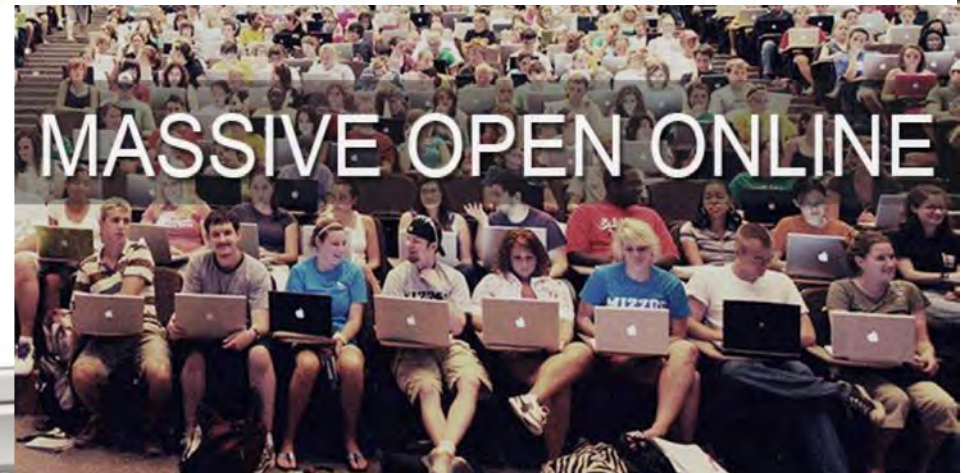
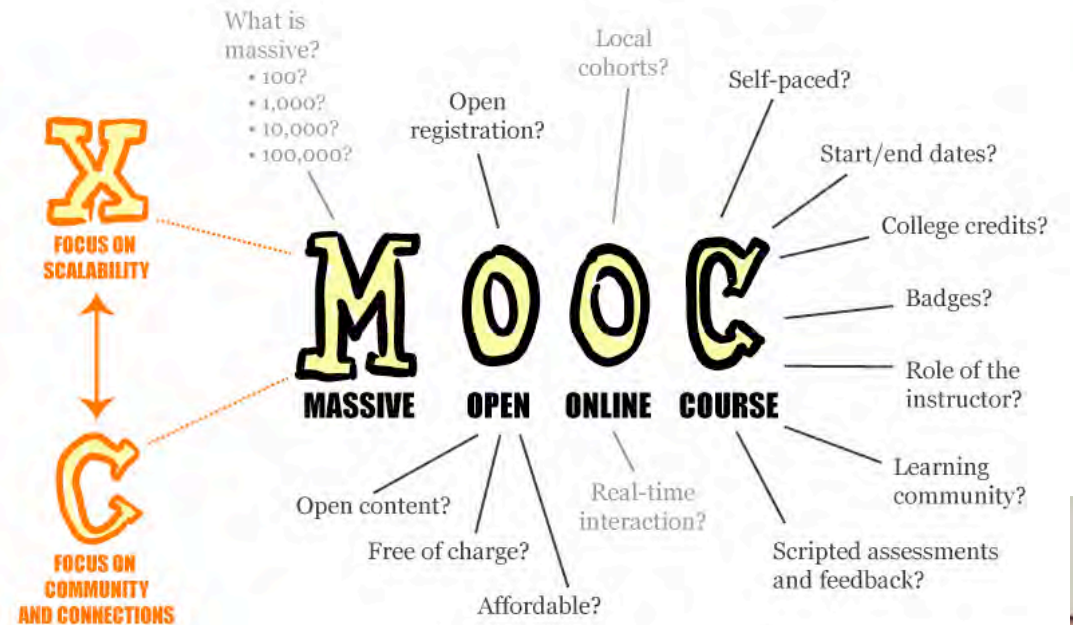


<http://elearninginfographics.com/personalized-learning-can-help-students-infographic/>

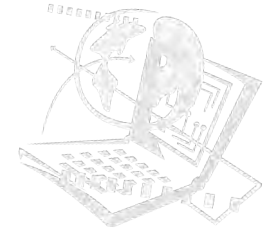
# Cloud-based E-Learning



- 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



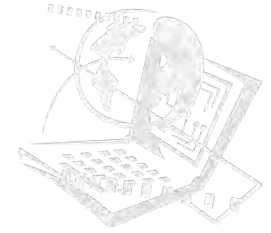
# Personalization



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



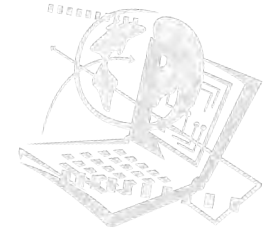
# m-Learning, u-Learning



- 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.*

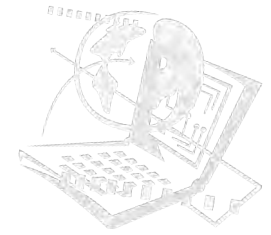
*Predict student performance based on data trends and patterns.*

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

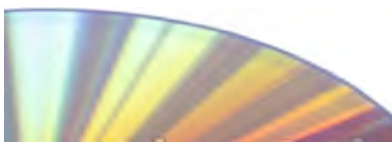
*Customize learning experiences*



# 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

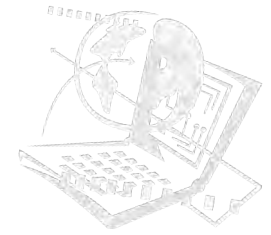


# Gamification



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





**KONSEP**

**E-LEARNING**



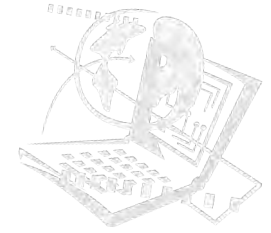
# Konsep e-Learning



- 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

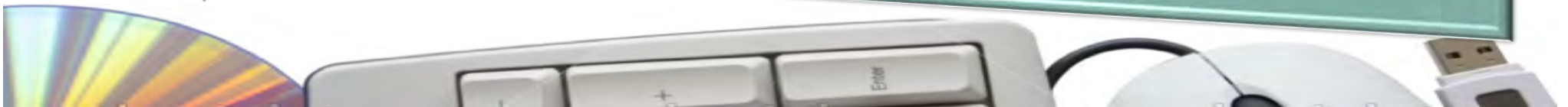
**SDM: Dosen/guru, Mhs/siswa, Tutor/asisten, Ahli (materi, instruksional), Teknisi**

3

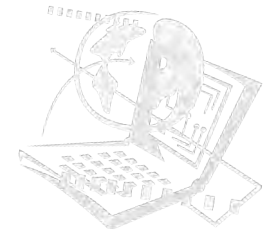
**Konten: Materi Pembelajaran, Aktivitas/interaksi, Strategi dan evaluasi**

4

**Support: Penjaminan Mutu dan Tata Kelola**



# Konten E-learning



## □ Learning Resources (Sumber Belajar)

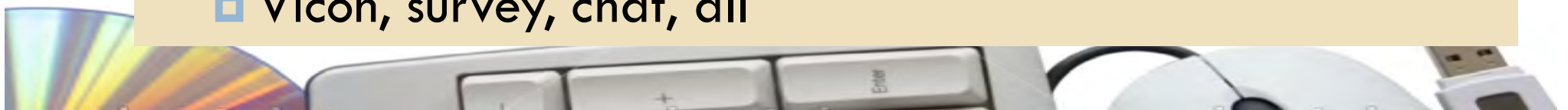


- Materi/bahan ajar berbentuk multimedia (teks, images, animasi, video) (Slide presentasi, LKS, modul, dll)
- Bahan pendukung (Kurikulum, Silabus, RPP, dll)
- Link untuk pengayaan

## □ Aktivitas/Interaksi



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

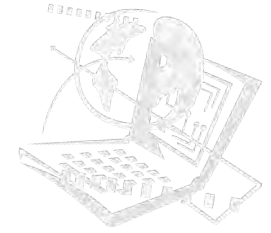


# Blended Learning

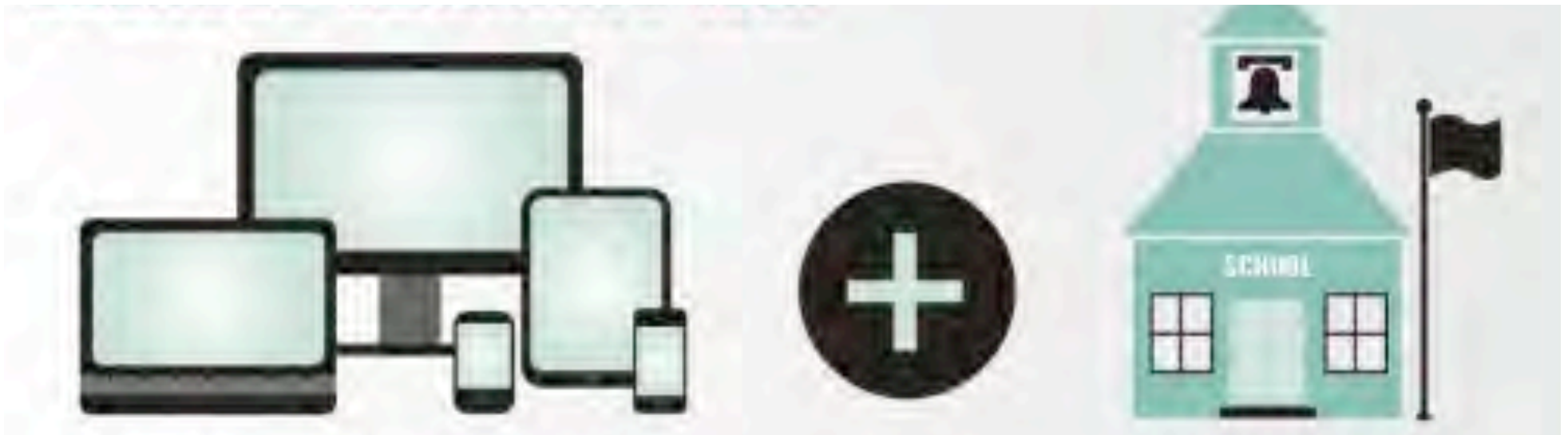
combining the best teaching methods



# 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 %	<b>Blended Learning</b>
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

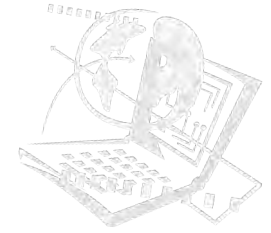
**Blended Online Course:** Aktivitas dilakukan secara online, namun ada sebagian yang diganti dengan tatap muka

6

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



# Kesimpulan



- ❑ Perguruan tinggi harus mulai menerapkan e-learning/online course.
- ❑ Perlu dirancang model pembelajaran online yang sesuai dengan kebutuhan mahasiswa (kompetensi).
- ❑ Kendala implementasi e-learning dapat diatasi melalui usaha bersama antara berbagai pihak dan para dosen.
- ❑ Proporsi online dan F2F dalam Blended Learning tergantung dari karakteristik mata kuliah.



# TERIMA KASIH

