What is the Educators' Mission for the Future Students?
- Scenario Planning of Educational Design Targeting at the Singularity Era -

Tosh Yamamoto & Masaki Watanabe
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Kansai University
soetosh@gmail.com

Meilun Shih
Center for Teaching, Learning, &
Development
National Taiwan University
mshih63@gmail.com

Why such a theme?

- Educators' Mission
  - Raising the future generation
  - Not giving pre-fabricated knowledge and values (but Critical Thinking Skill)
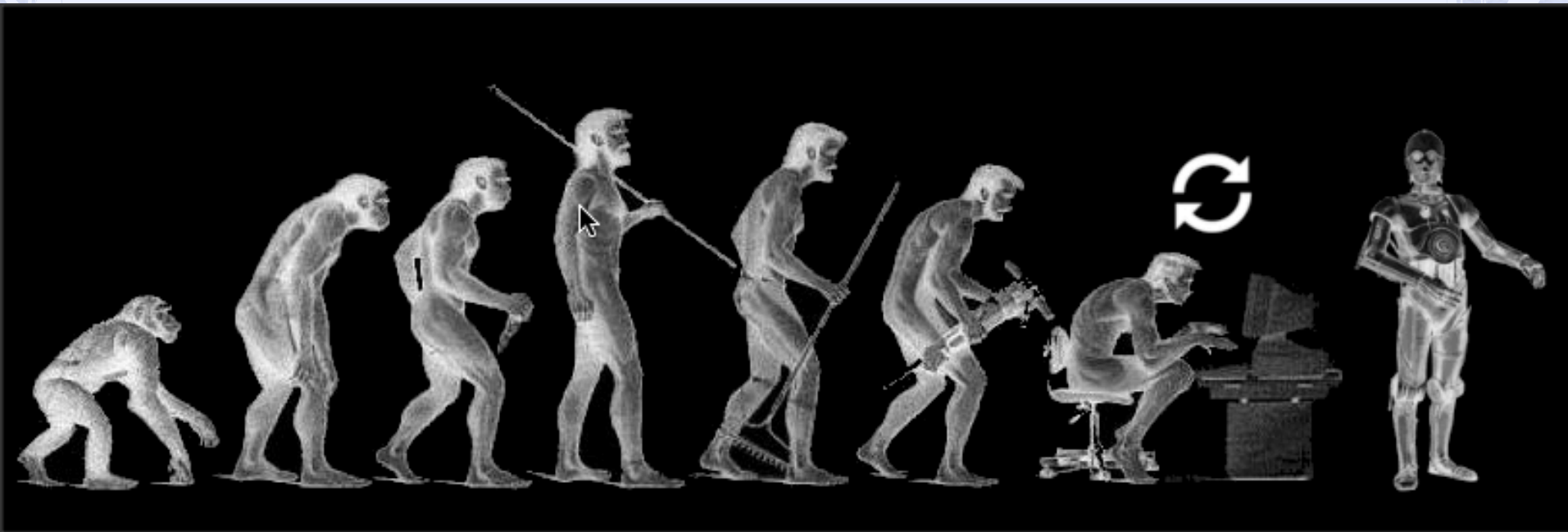 - Giving students chances to grow transcendence mind to lead to new values (Creative Thinking Skill)

While on the other hand ....

◆ Paradigm Shift in Education is just around the corner.

Job Market Dynamics

◆ Singularity (2045) → New Job Market?

How old will your students be in 2045?

https://joneljuste.files.wordpress.com/2015/04/singularity-c3po.jpg

Disappearing Jobs

47% of Jobs Will Disappear in the next 25 Years ⭐5, **According to Oxford University**

🕐 December 27, 2016   *by* PHILIP PERRY

Disappearing Jobs and Reasons

http://www.businessinsider.com/15-jobs-that-are-quickly-disappearing-2015-10/#printing-worker-1

15 jobs that are quickly disappearing

Rachel Gillett

Oct. 14, 2015, 4:52 PM   837,929

FACEBOOK	LINKEDIN	TWITTER	EMAIL	PRINT

Happened Recently

One of the major banks in Japan

みずほ、10年間で1.9万人削減検討　Ｉ
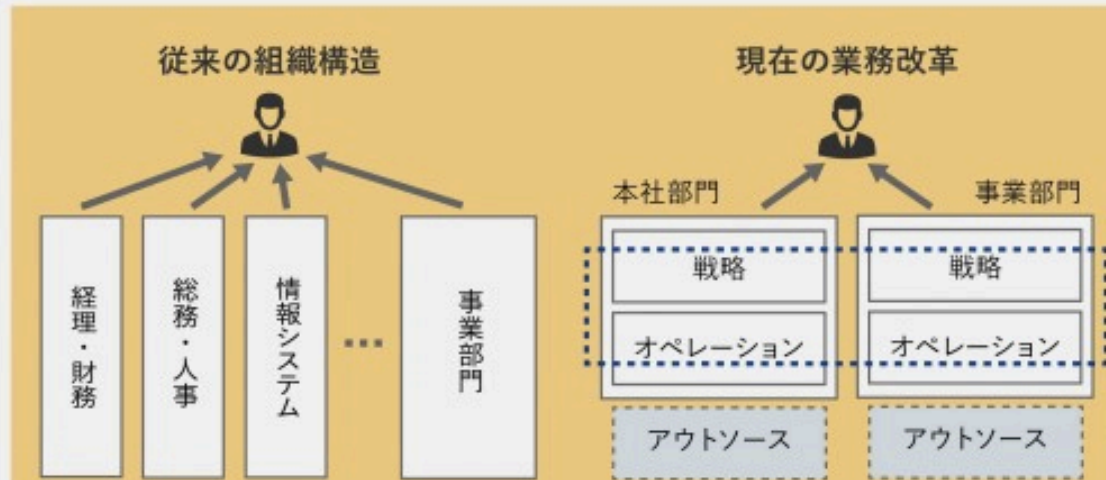Ｔや店舗統廃合で＝関係筋

19,000 bank employees will lose their jobs!

１分で読む

[東京　28日　ロイター] - みずほフィナンシャルグループ(8411.T)は、今後１０年間で
１万９０００人を削減し、現状の約６万人から４万人規模に移行する検討に入った。ＩＴ活
用による業務効率化や、店舗の統廃合を進める方針だ。

人の役割の二極化
Two-Tier Structure

従来の組織構造　現在の業務改革

経理・財務　総務・人事　情報システム　... 事業部門

本社部門　戦略　戦略　事業部門
オペレーション　オペレーション
アウトソース　アウトソース

Routine jobs ➜ AI and Robots

情報技術・人工知能による
新しい企業像

本社部門　戦略　戦略　事業部門
情報技術・人工知能
オペレーション　オペレーション
アウトソース　アウトソース
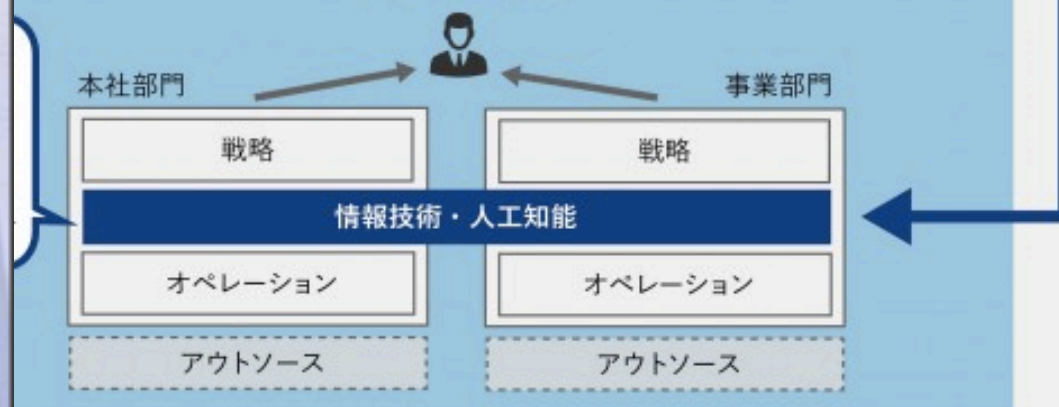
The Case
Against
Education

Why the
Education System
Is a Waste of
Time and Money

Bryan Caplan

mirai.doda.jp/series/interview/tomota-terada-part1/

作成：野村総合研究所

JOB MARKET IN THE FUTURE

bbc.com/news/technology–30290540

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Technology

Stephen Hawking warns artificial intelligence could end mankind

By Rory Cellan-Jones
Technology correspondent

2 December 2014 | Technology | Share

he biggest threat facing
one that has in some ways
been discovered: artificial
(AI). The physicist Stephen
g has said that AI could
eal danger' in the 'not-too-
ure. Hawking added that
s that computers develop
intelligence and take over. Humans,
who are limited by slow biological
evolution, couldn't compete, and would

Stephen Hawking

Newsweek.

U.S. | World | Business | Tech & Science | Culture | Spor

http://www.newsweek.com/stephen-hawking-artificial-intelligence-warning-destroy-civilization-703630

amazon.co.jp

STEPHEN HAWKING AI WARNING: ARTIFICIAL INTELLIGENCE COULD DESTROY CIVILIZATION

BY HANNAH OSBORNE ON 11/7/17 AT 4:43 AM

PREDICTIONS FROM

Stephen Hawking

▶ ↺ 🔊 00:01 / 01:24   ⚙ ⤢

SHARE 🟦 🟦 🟦 🟦 🟥 🟠 ✉ 💬

MOST READ

Papa John's Is The Official Alt-Right Pizza, Nazis Say

The 1 Percenters Are Middle Class: House Republicans

Corey Feldman Names Actor Who Allegedly Molested Him

How do we educate the future generation?

- Traditional Education Paradigm has seen the handwriting on the wall!
- A Paradigm Shift in Education is a must.
  - New educational philosophy
  - New educational model: New learning environment

> www.themodern.in/wp-content/uploads/2015/01/quote-for-website-ed-system.jpg
>
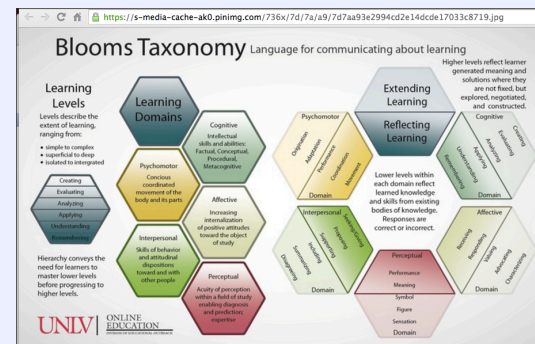> We cannot continue teaching with the methods of the 19th century and hope to prepare our children for the 21st century.

blogs.pitneybowes.ca/files/2015/09/Old-School-Typewriter-Phone-Books.jpg

A Quote:
From Horizon 2020 Proposal

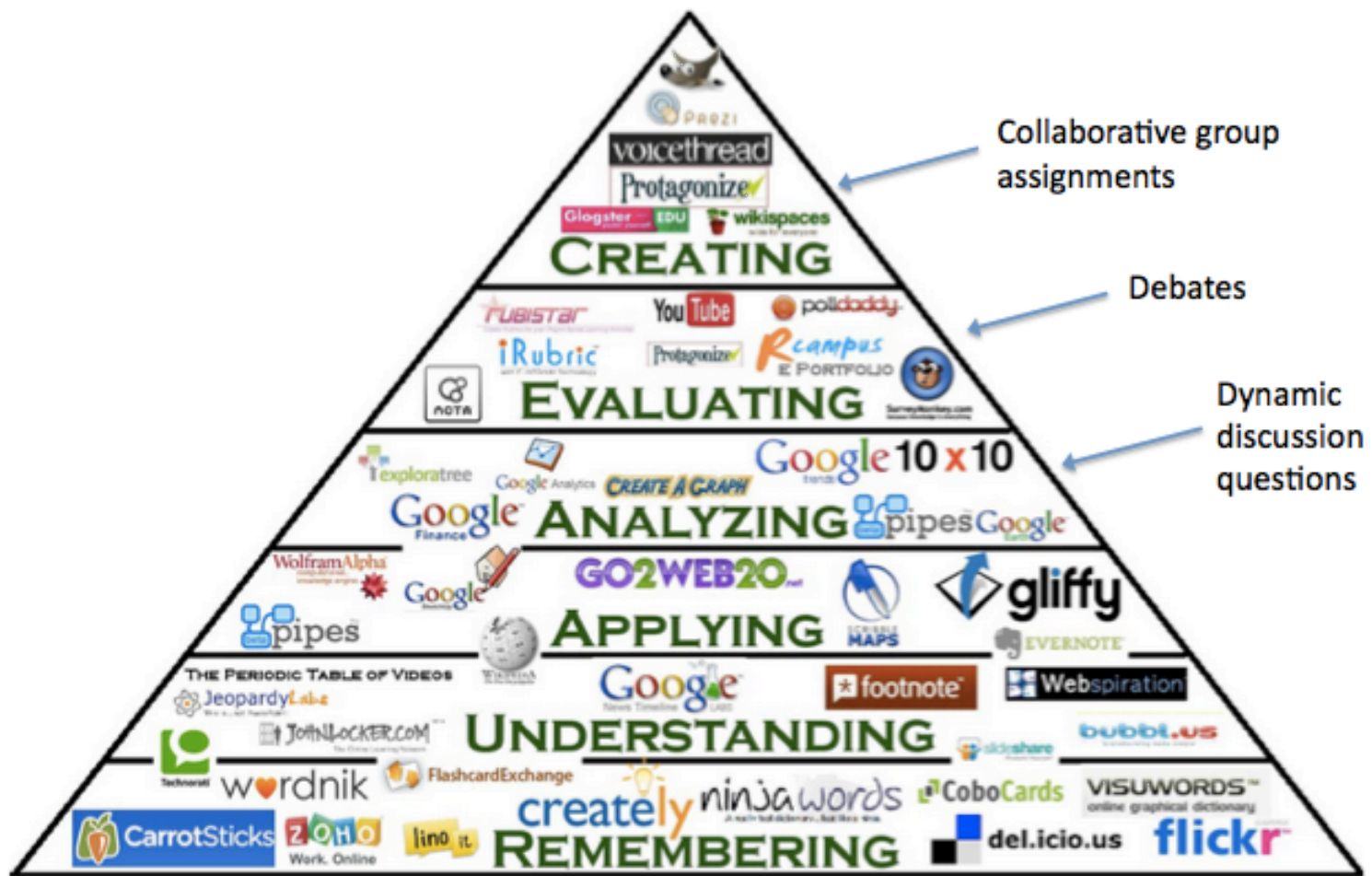- We can not educate 21st century citizens using only 19th century methodologies.

    - the vision of … Collaborative Education is that without doubt the largest impact on our society will be obtained by addressing the needs of our children to get personalized education: (1) motivating teachers to motivate students, (2) addressing their creativity, and (3) getting them in contact with their equals and the rest of the society to share their needs and motivations, thus closing the circle.

http://catlintucker.com/wp-content/
uploads/2012/04/Blooms-with-notes.png

Bloom's taxonomy: Learner's
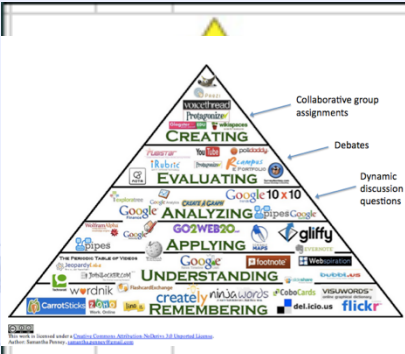
			The Cognitive Process Dimension					
			Learner's Activities					
			Passive Learning		Active Learning			
			Remember	Understand	Apply	Analyze	Evaluate	Create
			(knowledge)事実情報の記憶・暗記	(Comprehension)理解する	(Application)応用(調査)する	(Analysis)分析する	(Evaluation)評価(解釈)する	(Synthesis)新たに得た知識の統合化・成長
The Knowledge Dimension	Knowledge Information given in Class	Factual 事実情報						
		Conceptual 概念情報						
		Procedural 手順・プロセス手法						
		Meta-Cognitive メタ認知情報（受講生の成長を促す学習活動）						

The Role of University: Gas Station for life?
Filling the knowledge tank in the students' brain for the life-long career?
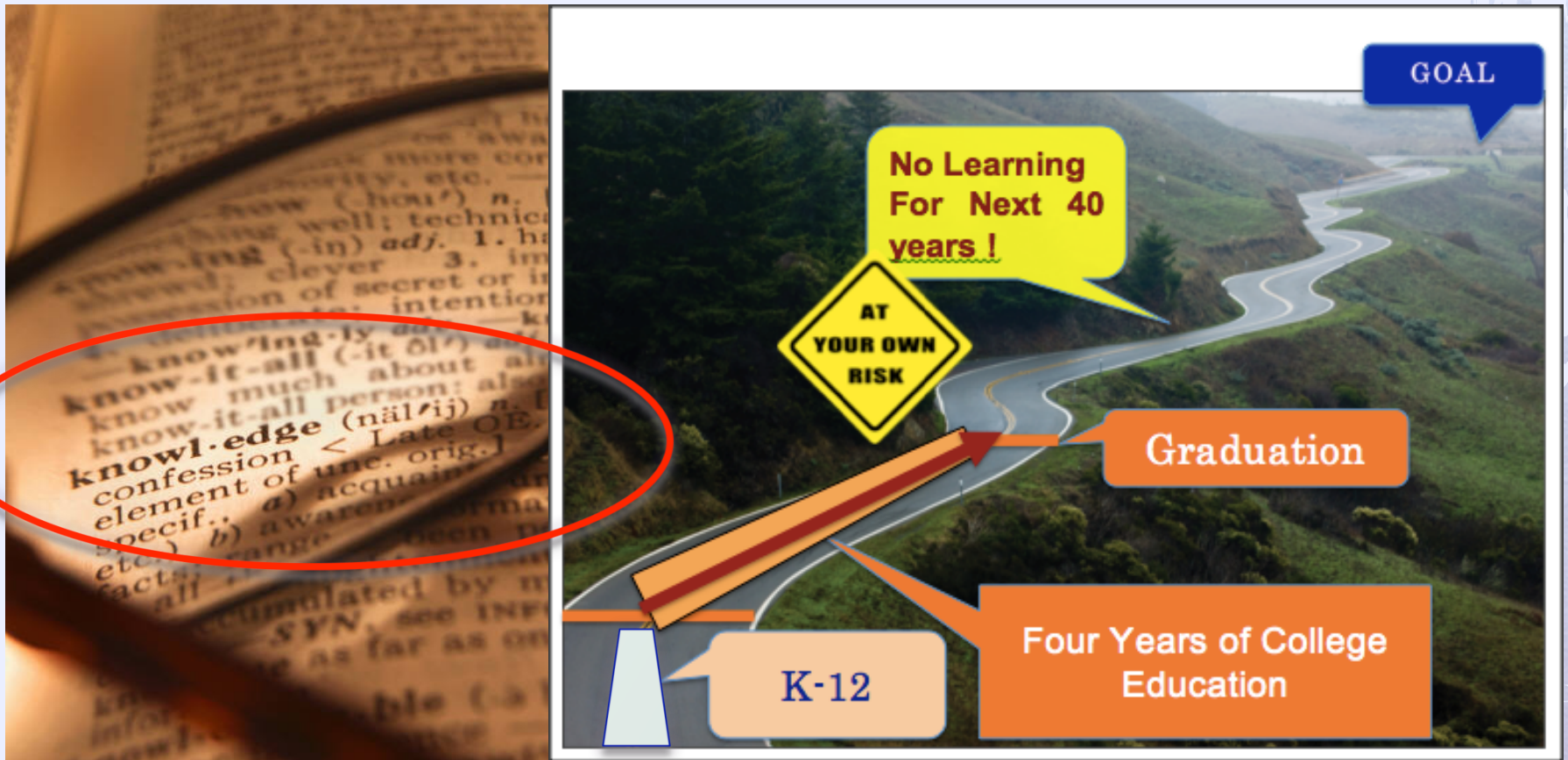
History of Education

◆ Educational Paradigm Today

   ◆ The Prussian (German) Educational System

      ◆ 1806

      ◆ https://feltd.wordpress.com/2010/09/16/the-prussian-german-educational-system/

Prussian National School System

standardized school grads go to industry and or military

Vocab Industry Military

©2015 Pocket Pumpkin Press

1839
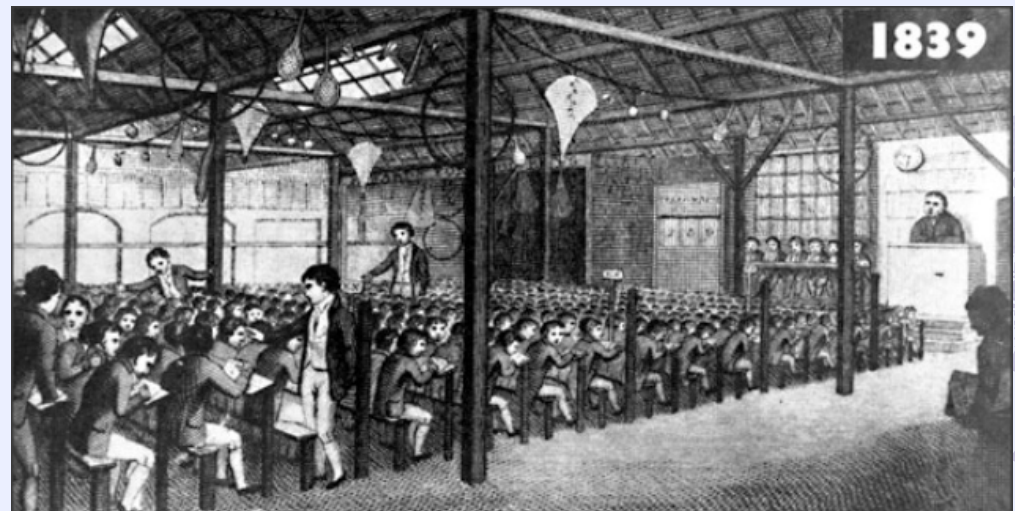
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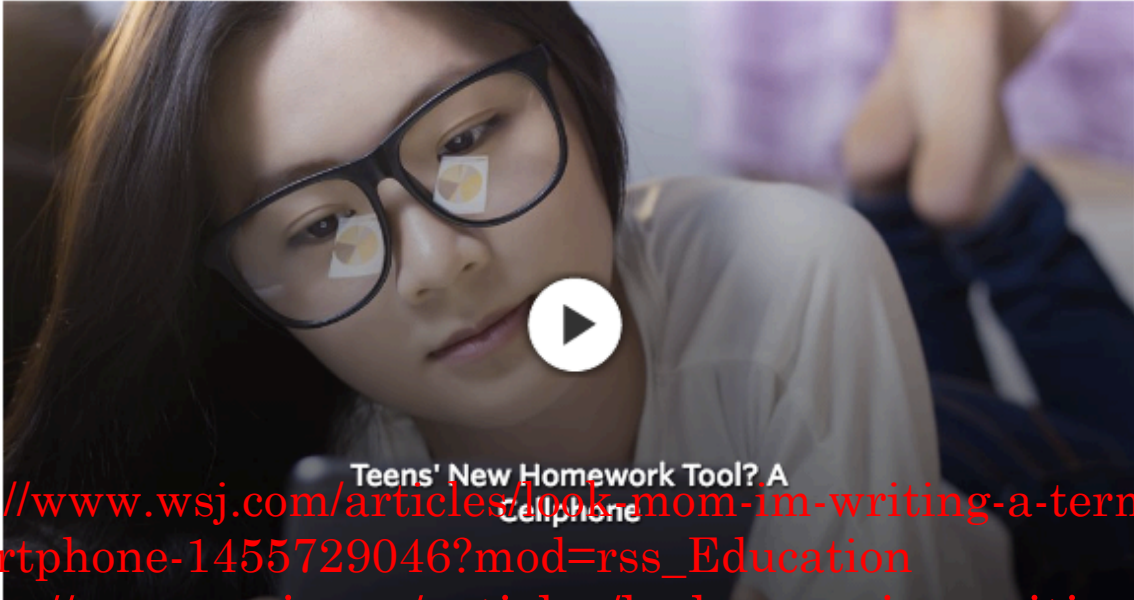
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The Office Barista Will Now Take Your Order

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A CEO's Straight Line ...

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My Summer Vacation Is Better Than Yours: ...

WSJ. MAGAZINE
The Cinematic Life of Sofia Coppola

Wh Cancer Proble

LIFE | LIFE & STYLE

Look, Mom, I'm Writing a Term Paper on My Smartphone

After years of cellphone bans, many teachers now invite teens to use smartphones for homework and during class

Teens' New Homework Tool? A Cellphone

More high-school students are using mobile phones to complete homework and research projects, and some educators are ... teacher Heidi Bernasconi join Tanya Rivero. Photo: iStock

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ttps://www.wsj.com/articles/look-mom-im-writing-a-term-paper-on-my-smartphone-1455729046?mod=rss_Education

♦ https://www.wsj.com/articles/look-mom-im-writing-a-term-paper-on-my-smartphone-1455729046

Google Drive
Share/Edit/PBL with Team Members!
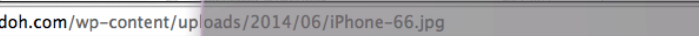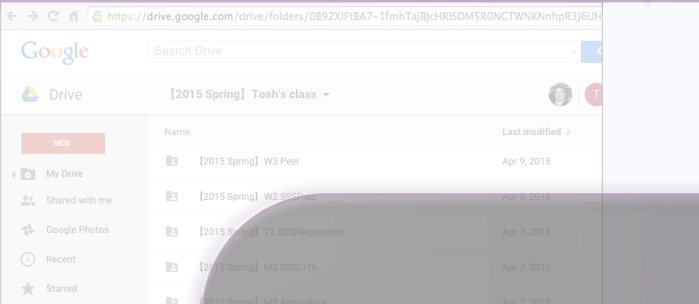
Gurantees 24/7 team learning environment

Active Learning is essential!

www.tu-collaborative.org/wp-content/uploads/2014/10/Bio-Science-64.jpg
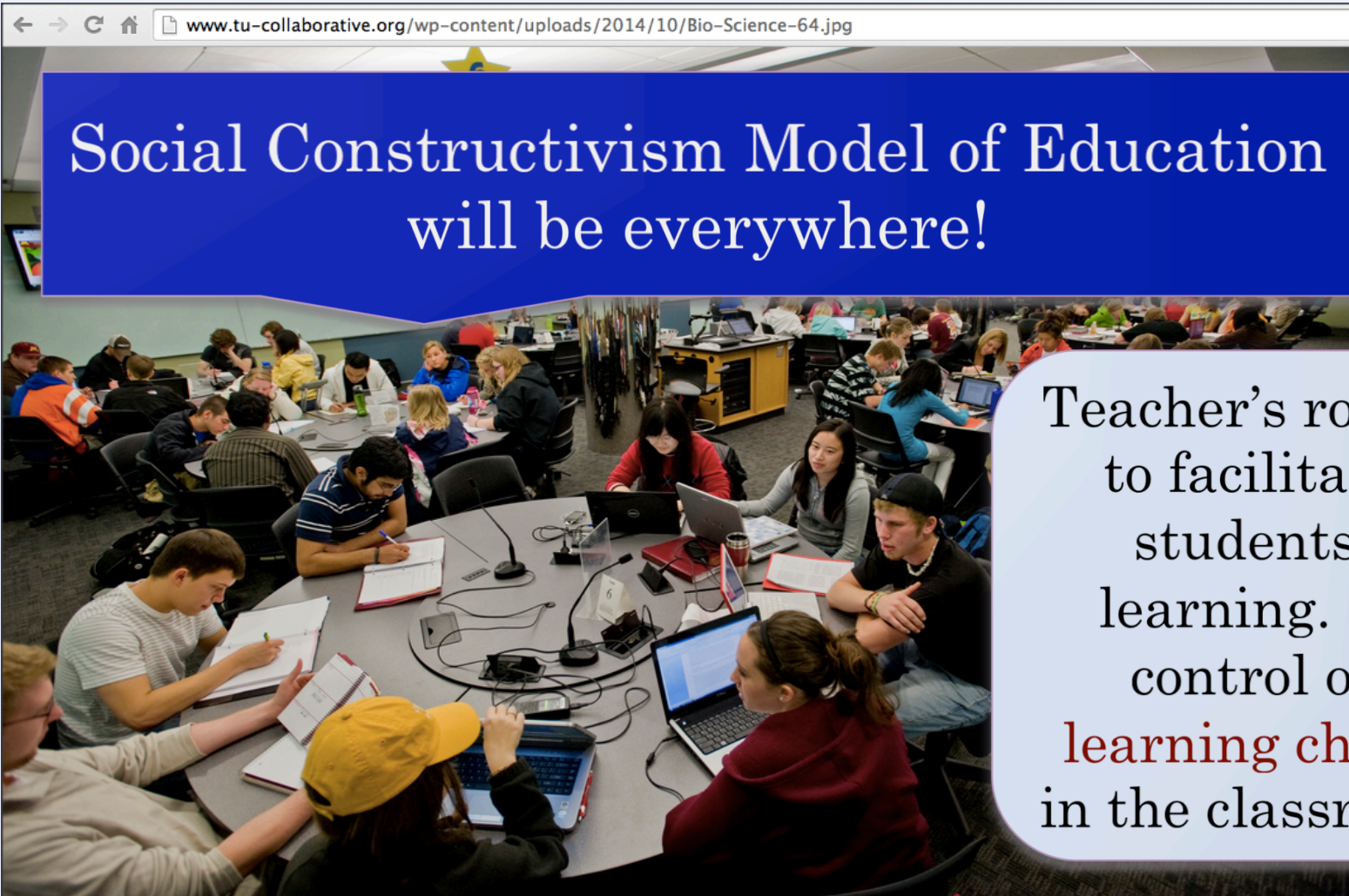
For the future education,
Social Constructivism Model of Education
will be everywhere!

Face-to-Face
In-Class
Learning

Active Learning is essential!

www.tu-collaborative.org/wp-content/uploads/2014/10/Bio-Science-64.jpg

Social Constructivism Model of Education will be everywhere!
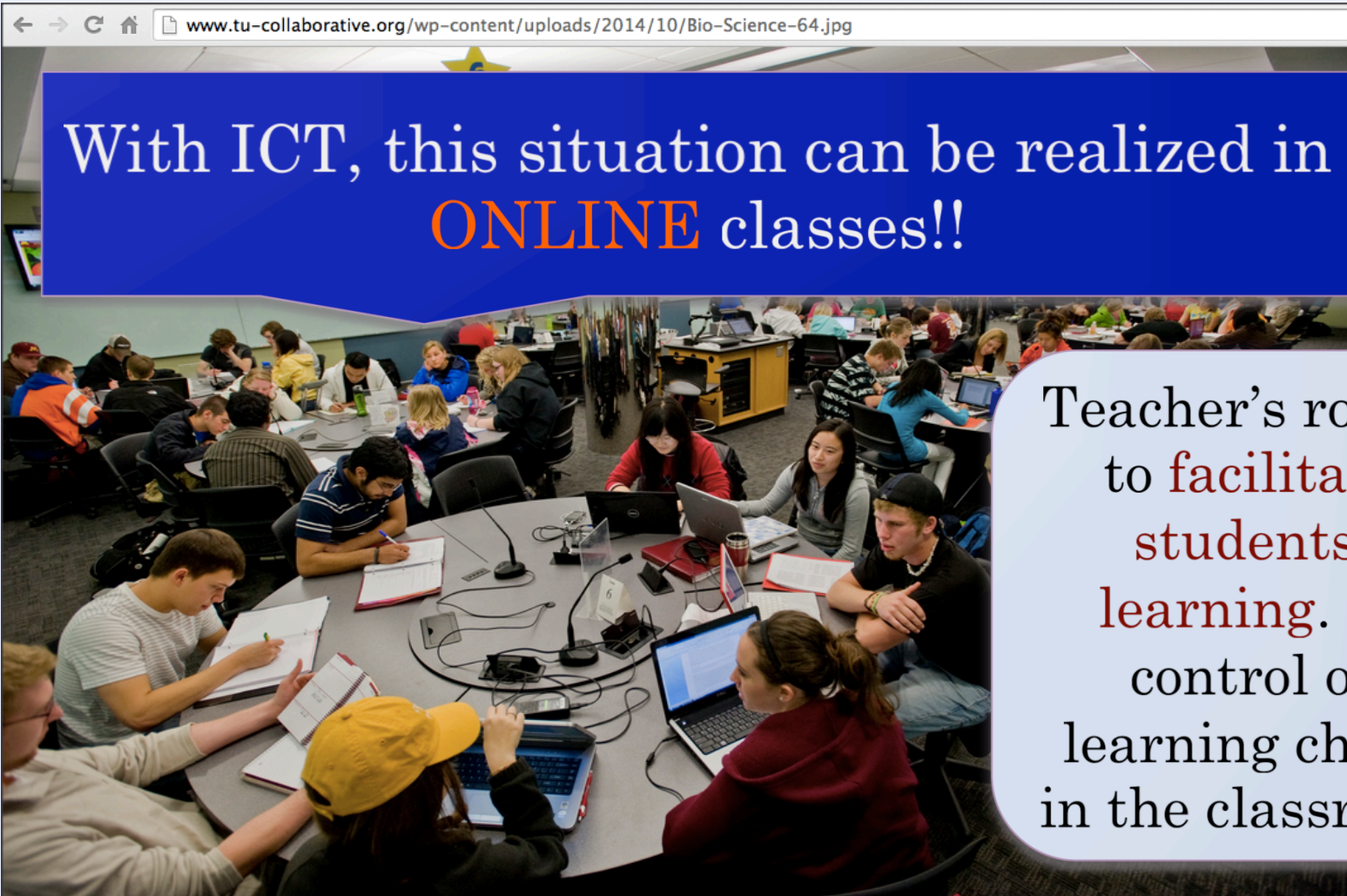
Teacher's role is to facilitate students' learning. --- control of learning chaos in the classroom

Active Learning is essential!

Sense Making:
ICT and Communication

- Communication Skills:
  Needs for communication with students from other cultures and values.
  - Long-Lasting Trust Building
- Problem Solving Skills: Common issues in our society
- Project Management Skills:
  Working in Teams: International/Global Teams
- Consensus Building through TBL
- Go Global !

www.iftf.org/uploads/media/IFTF_FutureWorkSkillsSummary_01.gif

Future Work Skills 2020

While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.

KEY

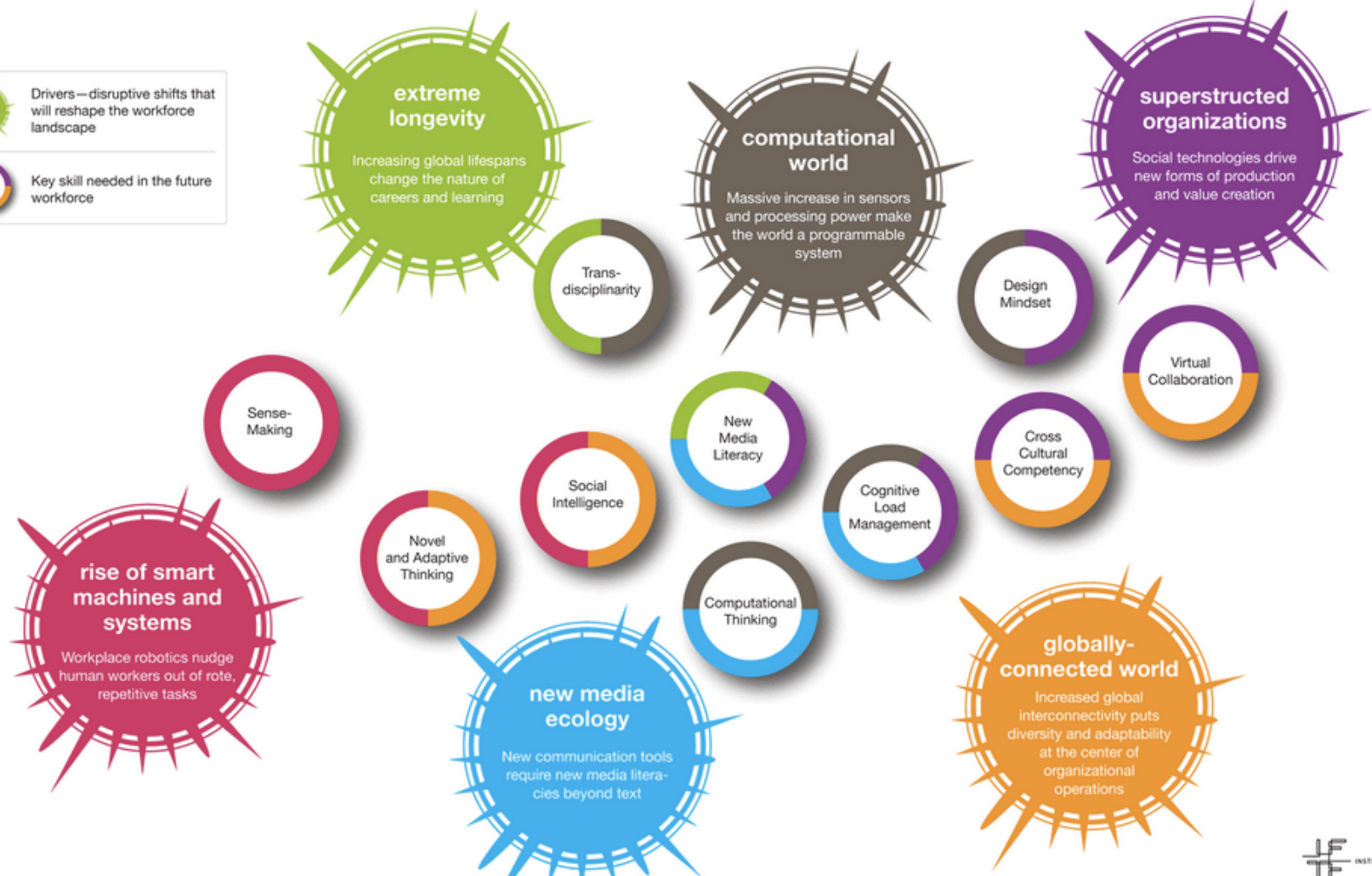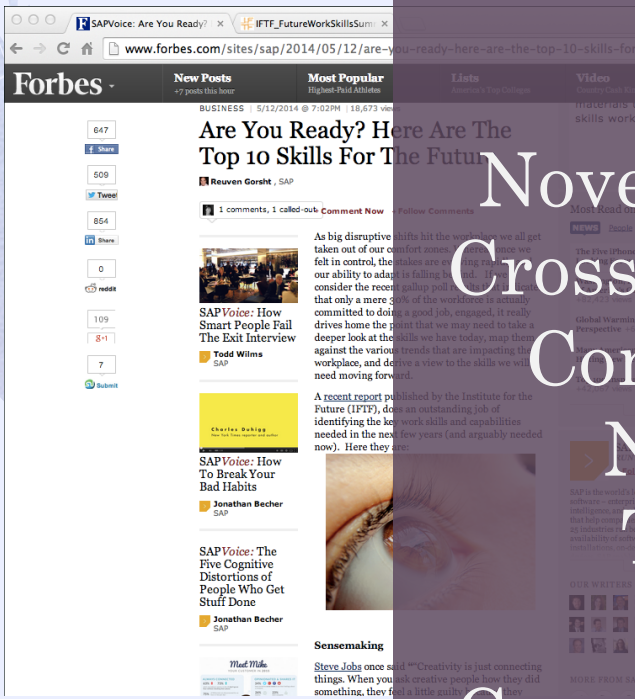Drivers—disruptive shifts that will reshape the workforce landscape

Key skill needed in the future workforce

extreme longevity
Increasing global lifespans change the nature of careers and learning

computational world
Massive increase in sensors and processing power make the world a programmable system

superstructed organizations
Social technologies drive new forms of production and value creation

Trans-disciplinary

Design Mindset

Virtual Collaboration

Sense-Making

New Media Literacy

Cross Cultural Competency

Social Intelligence

Cognitive Load Management

Novel and Adaptive Thinking

rise of smart machines and systems
Workplace robotics nudge human workers out of rote, repetitive tasks

Computational Thinking

new media ecology
New communication tools require new media literacies beyond text

globally-connected world
Increased global interconnectivity puts diversity and adaptability at the center of organizational operations

INSTITUTE FOR THE FUTURE

http://www.iftf.org/uploads/media/IFTF_FutureWorkSkillsSummary_01.gif

The Future,
Better Life,
Transcendency

10 Needs for Future Education

Sense Making
Social Intelligence
Novel & Adaptive Thinking
Cross-Cultural Competencies
Computational Thinking
New Media Literacy
Transdisciplinarity
Design Mindset
Cognitive Load Management
Virtual Collaboration

Learning Opportunities
Global Learning

COIL (Collaboration Online International Learning)

COIL is a method which two classes (or more) from different universities (and possibly from different countries) can work on a same project together, or simply create an opportunity to have intercultural/ international communication with the ICT enhanced tools. Various tools available in Web 2.0 era are used in order to enable this kind of connection among them. Kansai University is interested in formally adopting this kind of activities as institutionally encouraged / promoted endeavor as a part of globalization/internationalization act for us. KU is going to have its 130th anniversary year very soon (2017), and it wants to include the development of Kansai COIL platform with overseas network by then.

COIL has begun in SUNY, USA. More information can be found in their homepage, and some relevant parts are cut and pasted below. With their

Virtual Classroom

video and image based classroom, APAN 38, 2014

A Quote:
From Horizon 2020 Proposal

- We can not educate 21st century citizens using only 19th century methodologies.

  - the vision of … Collaborative Education is that without doubt the largest impact on our society will be obtained by addressing the needs of our children to get personalized education: (1) motivating teachers to motivate students, (2) addressing their creativity, and (3) getting them in contact with their equals and the rest of the society to share their needs and motivations, thus closing the circle.

Active Learning
Social Constructivism
PBL through TBL
Global is a must!

Education Model

The Region that must be included in the Higher Education
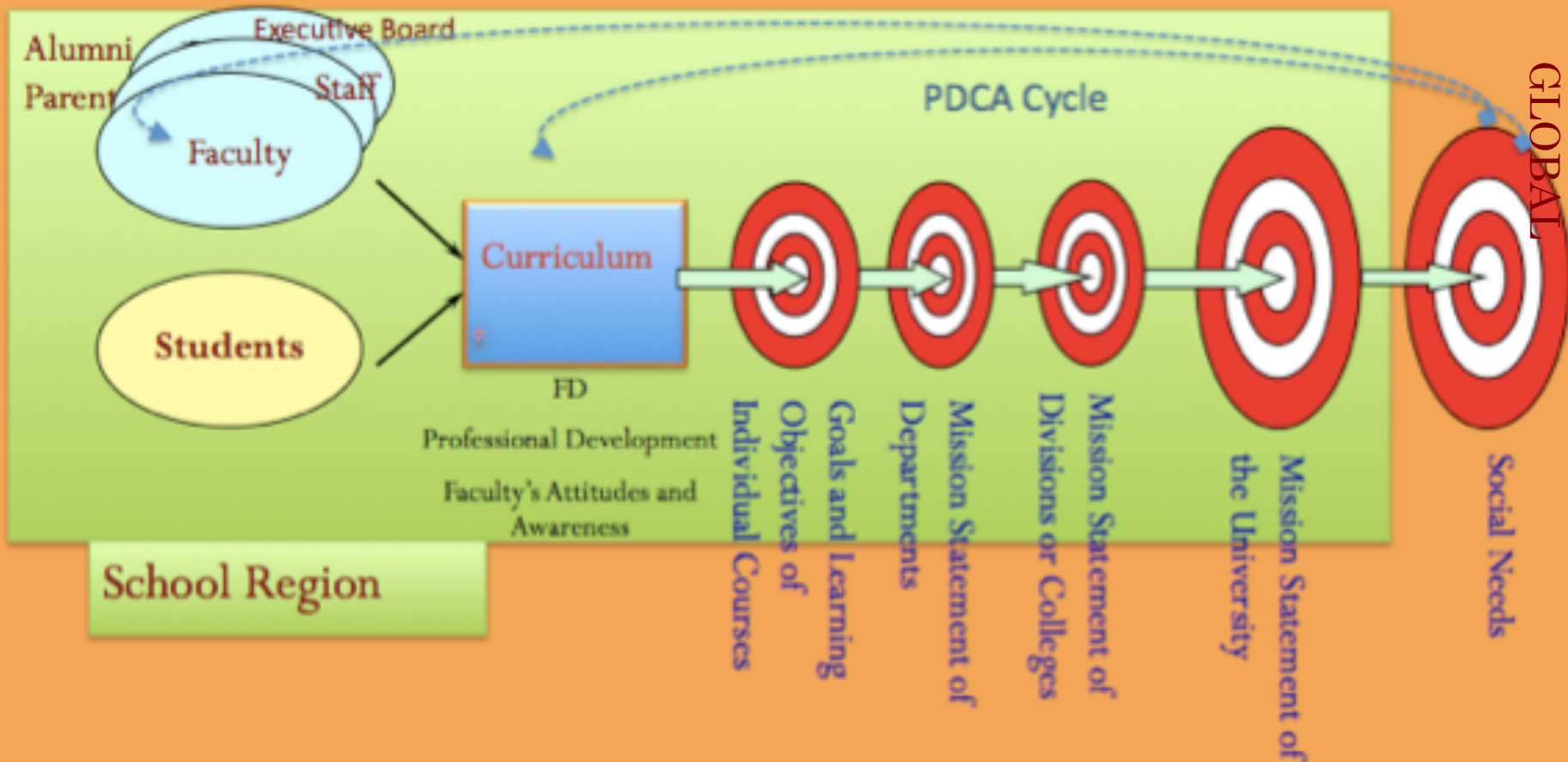
How do you make your students become ready for the future?

- Traditional Education Paradigm has seen the handwriting on the wall!

- <u>A Paradigm Shift in Education is a must.</u>

  - New educational philosophy
  - New educational model: New learning environment

We cannot continue teaching with the methods of the 19th century and hope to prepare our children for the 21st century.

PROGRAM

- ・COIL for ICT-Enhanced Learning
  - New Curriculum: KU-COIL (Collaborative Online International Learning)
  - Harnessed with Tesseractive and Critical Thinking Skills

Tesseract-ive

the four-dimensional hypercube
(Tesseractive in the sense that the context analysis is conducted in Three-Dimensionally spatial as well as temporal span (past – present – the future in the scenario planning session.)
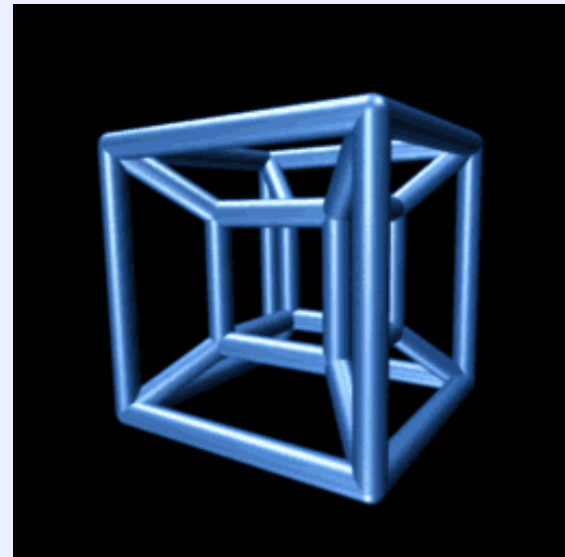
Show Case

- As an example of the tesseractive learning, a show case curriculum is demonstrated.
- Tesseractive & Global Liberal Arts :
  - Critical Thinking

COIL Learning Environment for PBL through TBL

ICT –Enhanced Learning to Foster Work Skills 2020

Tosh Yamamoto, CTL, Kansai University – Masanori Tagami, Otemon U – Tomoko Sato, CTLD, Tohoku U – Maki Okunuki, HLC, Kwansei U -- Anthony Liao, Vivian Wu, Steve Yang, Asia University – Meilun Shih, CLTD, NTU –Shelly Young, NTHU -- Wu-Yuin Huang, NCU -- Ming-Puu Cheng, NTNU – An-Pang Cheng, Raymond Chen, NIU – Juling Shih, NUTN   (Student Presenter: Tomoya Ikezawa)

KU-COIL

Kansai University
Collaborative Online
International
Learning

Six Great Benefits!

06

Impact on Higher Ed in Asia

Sustainable Development Society and the promising future for the future generations to appreciate the Asian cultural heritage!

01

Impact on Higher Ed in Asia

The mission of education is not to give students pre-fabricated values, but to offer opportunity to explore, discover & transcend the values.

05

Can Be Applied to Lifelong and Life-Wide Career Development

Wide range of Global Liberal Arts curriculum to nurture to become the full-fledged social beings

PBL in Global Teams
Global Liberal Arts
Social Constructivism Paradigm
Active Learning

02

PBL in Teams

Students will organize a team with international members to work on a project of the research question that they formed.

04

Advanced Communication Skills For Trust-Building With Empathy

Virtual Learning Environment

Future Work Skills 2020 are assured!

03

COIL-based Learning

- Progress Report on collaborative active learning endeavor with National Taiwan University (NTU)

NTU CLASS View

COIL-based Learning

◆ Progress Report on collaborative active learning endeavor with National Taiwan University (NTU)

KU CLASS View

Collaborative Online International Learning

Image of Learning compared to bridge building in Rome.
Snapshots for the learning process as well as the development flow of the learning set by the learner.

From Google

Meta Syllabus Level

COIL Course for Academic Skills Enhanced with Negotiation Practicum

	General Outline	Detailed Information
1	Orientation	Goal Setting Active Learning in the Social Constructivism Paradigm House Keeping Rules for this class Mini-Lecture: Characteristics: Problem-Based Learning (PBL) with Global Teams Team Building
2	Active Learning (PBL)	Mini-Lecture: Situational Leadership Discussion: Team Rules
3	Visual Organizers (ICT Thinking Tools)	For every member to be on the same page Two-Tier Learning Environment a. Visual Organizers for intra-team activities (concept map) b. Internet Environment for inter-team activities (cloud service)
4	Team Activity (1)	Developing Active Learning Competencies: Brain Storming Mini-Lecture: Brain Storming Technique with Post-It Plus®
5	Team Activity (2)	Developing Active Learning Competencies: Information

Course Level

COIL Exchange - Kansai University & National Taiwan University

e.g. KUGF Independent Study (English Skills Development: Fundamental Academic Skills)

e.g. NTU Freshman Seminar

· ·

Upon the completion of the course, you will walk away with:

1 The confidence to go beyond an understanding of the fundamental knowledge and the importance of the academic skills for life-long active learning, as well as implement such learning strategies for academic achievement and career development.

2 A roadmap for your academic and career planning in your life context, empowering you to apply active learning strategies to the life and career context as a situational leadership opportunity.

3 Recognition of your understanding of the importance of active learning strategies in the PBL context for the wellness of the future design of career and life, i.e., the work-life balance.

· ·

Professor Tosh Yamamoto

Learning Object Meta Data Contents

Learning Experience Modules

The modules below can be used in various situations based on the class dynamics and the level of students' level of understanding and performance.

Course Starters:
Module A: [Casual Lecture] Orientation
Module PBL: [Casual Lecture]
            Concept: PBL through Team Based Learning (Situational Leadership Model)
Module TEAM: [Casual Lecture] Concept: Working with Team: Team Building with Empathy

Course Learning Tools: Using Visual Organizers:
Module VO-001: Generating Ideas: Brain Storming with Post-It's
Module VO-002: Generating Ideas: Organizing the Output of Brain Storming with Post-It's
Module VO-003: Generating Ideas: Meta-Cognitive Organization for the Output of Brain Storming
            with Concept Mapping Tools
Module VO-004: Developing Critical Thinking Skills: KWL Model with Brain Storming
Module VO-005: Developing Critical Thinking Skills: SWOT Analysis
Module VO-006: Developing Critical Thinking Skills: PEST Analysis
Module VO-010: Developing Skills for Sense Making: Associating more than two things or concepts
Module VO-011: Developing Skills for Creative Options
Module VO-012: Developing Skills for Decision Making

Research:
Module Research-001: What is a Team-Based Research?
Module Research -010: Steps in Research: Brain Storming to Narrow Down a Research Area
            Plan – Execute
Module Research -011:

Detailed Instructional Strategies

What to do in class?   Learning Experience Modules

Detailed Descriptions of the Listing Above

Course Starters:
Module A: Orientation
1. Pre-Assessment::Knowing students' levels:: where the students are in the course of development
    ➔ Identifying the starting point
2. Setting the goal for the course
3. Setting the learning objectives (breakdown of the course goal)
    ➔ Clarifying the minimum requirement for passing the course
4. Sharing the House Keeping Rules for the course
5. Clarifying the Course Operation Structure::Role of Instructor :: Role of Students
- -

    Self-Assessment Tools: Questionnaires for Learning Assessment
    Bloom's Taxonomy matrix
    Realm of Learning: Multiple Intelligences
    KWL (Thinking Tool)
    Probing questions (a set)
    House Keeping Rules
    Course Operational Procedure (samples)
- -

To-Do after class:
Use the given QR cord (soetosh) to sign up for the class LINE group.
Use your Google Gmail account to send me (soetosh@gmail.com) your student ID and name for creating the class learning space on the Google Cloud Service.
(Purpose: Getting Ready for Team-Based Learning Portfolio)

Critical Thinking: Sprint I (5 Weeks)
e.g. Flipgrid & Padlet

- Team Building with Empathy/Trust
- Each Team sets their own theme for CT
- All members & the entire class to be "on the same page" of Learning!
- Team Activity Report in Rich Media
- View Presentations by Other Teams & Give Constructive Comments
- Reflection session => SWOT Analysis => Goal Setting for the Future Learning (in writing/video)

padlet

padlet.com/soetosh/c7ah513xtpr0

2018SpringM2

Wonderful tool for teamactivities!

TOSH YAMAMOTO   DEC 02, 2017 01:21PM

CLASS INTRO

Sogo's Flipgrid Response
Flipgrid is where social and emotional learning happens! The leading video discussion platform for millions of PreK to PhD educators, students, and families.
FLIPGRID.

Mina's Flipgrid Response
Flipgrid is where social and emotional learning happens! The leading video discussion platform for millions of PreK to PhD educators, students, and families.
FLIPGRID.

白川's Flipgrid Response
Flipgrid is where social and emotional learning happens! The leading video discussion platform for millions of PreK to PhD educators, students, and families.
FLIPGRID.

石丸's Flipgrid Response
Flipgrid is where social and emotional learning happens! The leading video discussion platform for millions of PreK to PhD educators, students, and families.
FLIPGRID.

SPRINT I : TEAMS

TEAM A

篠原、河端、岡下

TEAM B

木村、白川、小石、光岡

TEAM C

馬場、本田、石丸

padlet

NTU-KU COIL PROGRESS REPORTS

Progres reports and promo videos

TOSH YAMAMOTO   DEC 06, 2017 03:56PM

Team One

Cultural differences of food between Japan&Tsiwan

Tsumimi Takasato, Tatsuya Ido

Summary

First,we talked about our culture food each other. Then,we discussed same, similar and different culture of food between Japan and Taiwan. We discussed different culture food in detail. We talked about some genre from concerning to daily live to traditional events regarding on daily life,we talked about some kinds of drink,break fast and taking out. Referring to traditional events ,we talked about night market and the years regular functions. We were surprised at differences each other,and culture was strange. However at the same time,we noticed that we should receive another culture and understand deeply each other.

プレゼン**.mp4**	Kinds of Water(Taiwan)
GOOGLE DRIVE	

We would like to talk about differences of cultural differences between Japan and Taiwan.

can buy handmade drinks almost
you cannot find stores of handma
that,Japanese buy drinks on vend
I would like to watch on another
buy fast food on vending machin
But in Taiwan,there is no vending

Finally , We would like to introdu
The meals are served in single-pe
few food. If they left food, they d
away.On the other hand, large pr
served on a table in Taiwan. Som
left on the table because people a
reason why Taiwanese are habitu
restaurant.
Wrapping food up and taking out
Japanese should imitate Taiwane

Conclusion
Both Taiwan and Japan difference
point. Japanese think it is natural
think that is unusual things.
Reverse is also same. So we shou
each other.

Advantages

- Students learned to
  - set the pace of learning.
  - choose a theme for their learning through discussion.
  - share their discoveries with all the class (followed by their constructive comments)
  - reflect the entire learning process
  - work in teams (situational leadership in action)

What is the Educators' Mission for the Future Students?
- Scenario Building for Instructional Design Targeting at the Singularity Era -

Thank you very much!

Tosh Yamamoto   & Masaki Watanabe
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Meilun Shih
Center for Teaching, Learning, &
Development
National Taiwan University
mshih63@gmail.com