Intel Creative Teacher Network

leading Korea's New Policies on K-12 Software/ Programming Education

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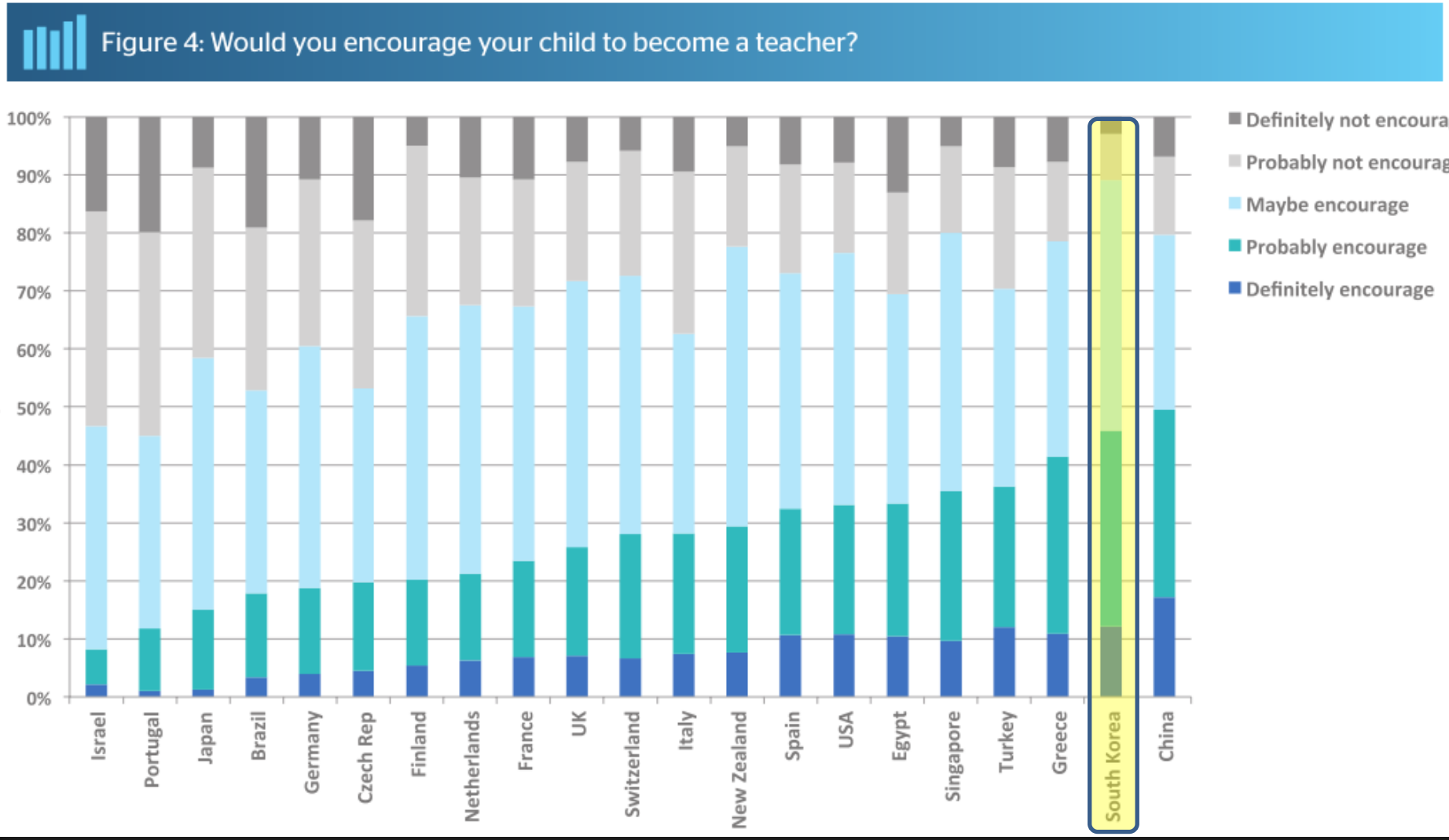
Do you remember your favourite teacher ?
A teacher that you looked up to, who changed your life?

Teacher Salary Index:
Average Teacher Salary in different countries

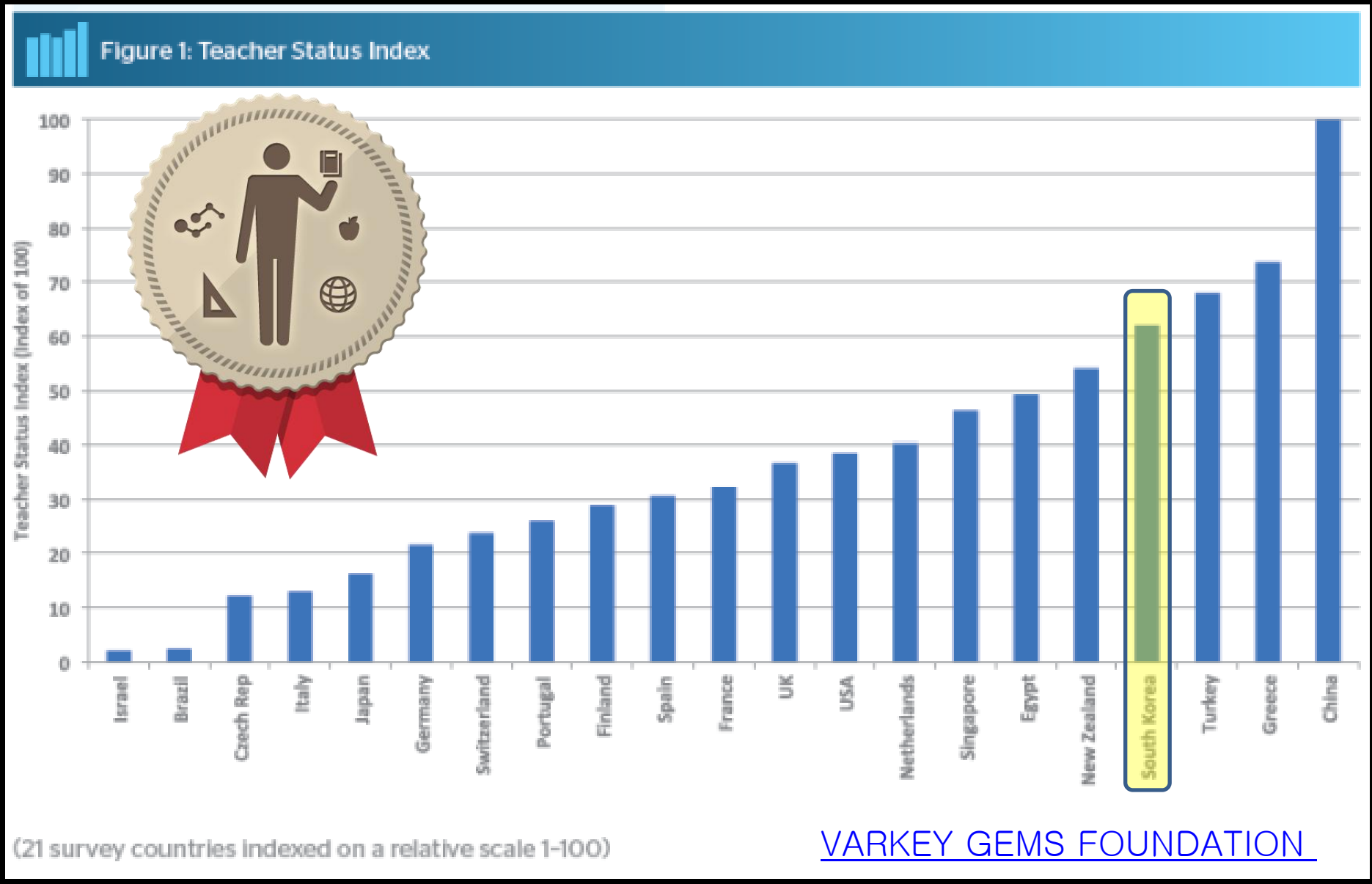
COUNTRY	INDEX RANKING	AVERAGE TEACHER SALARY ($ USD, PPP ADJUSTED)	PISA RANKING (1 = HIGHEST PISA SCORE, 20 = LOWEST PISA SCORE)
China	100	$17,730	3
Greece	73.7	$23,341	17
Turkey	68.0	$25,378	19
South Korea	62.0	$43,874	4
New Zealand	54.0	$28,438	6
Egypt	49.3	$10,604	NOT AVAILABLE
Singapore	46.3	$45,755	1
Netherlands	40.3	$37,218	7
USA	38.4	$44,917	12
UK	36.7	$33,377	10
France	32.3	$28,828	11

Job Preference Index:
Would you encourage your child to become a teacher?

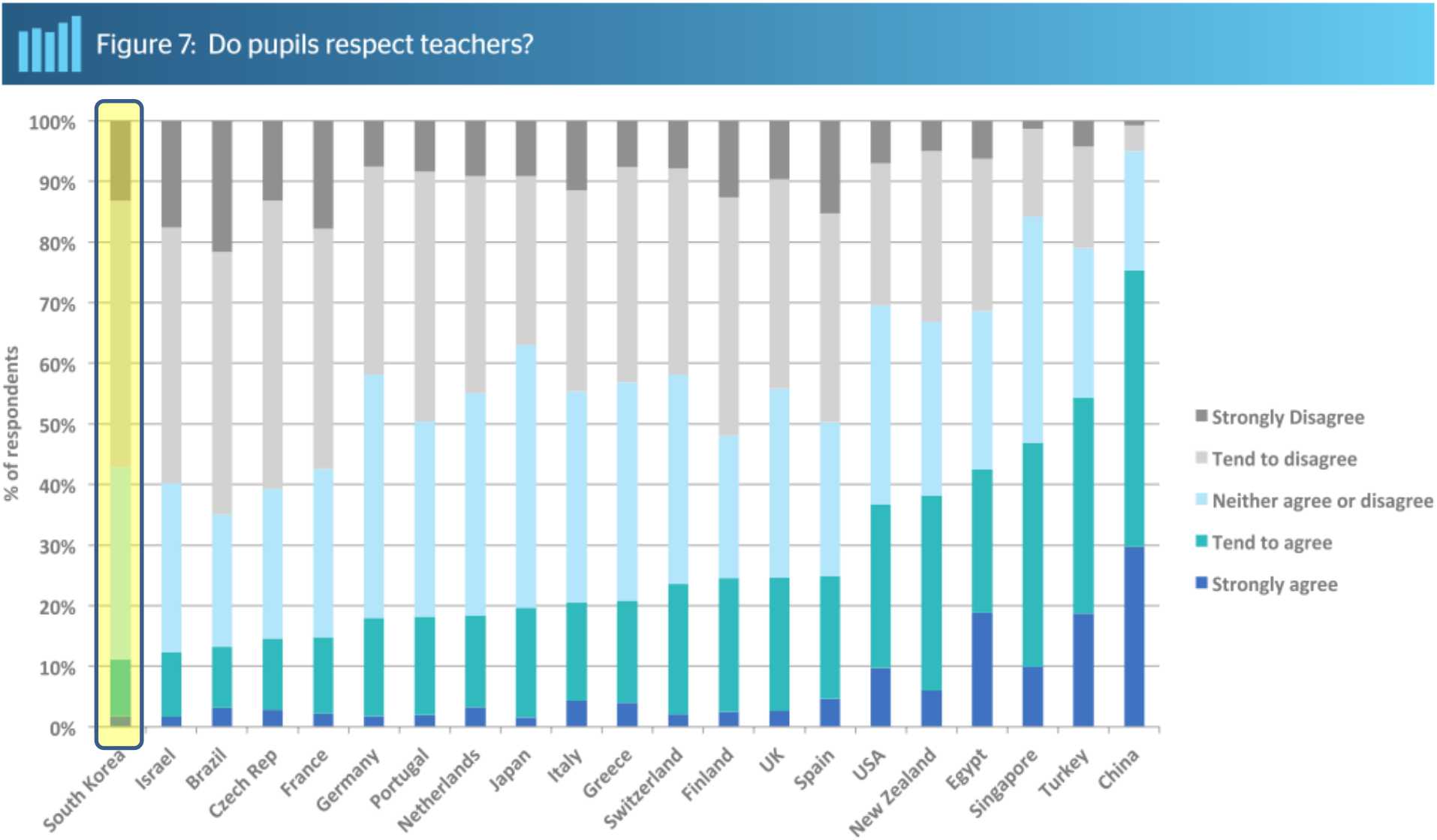


South Korea 48%, China 50%

The Global Teacher Status Index 2013



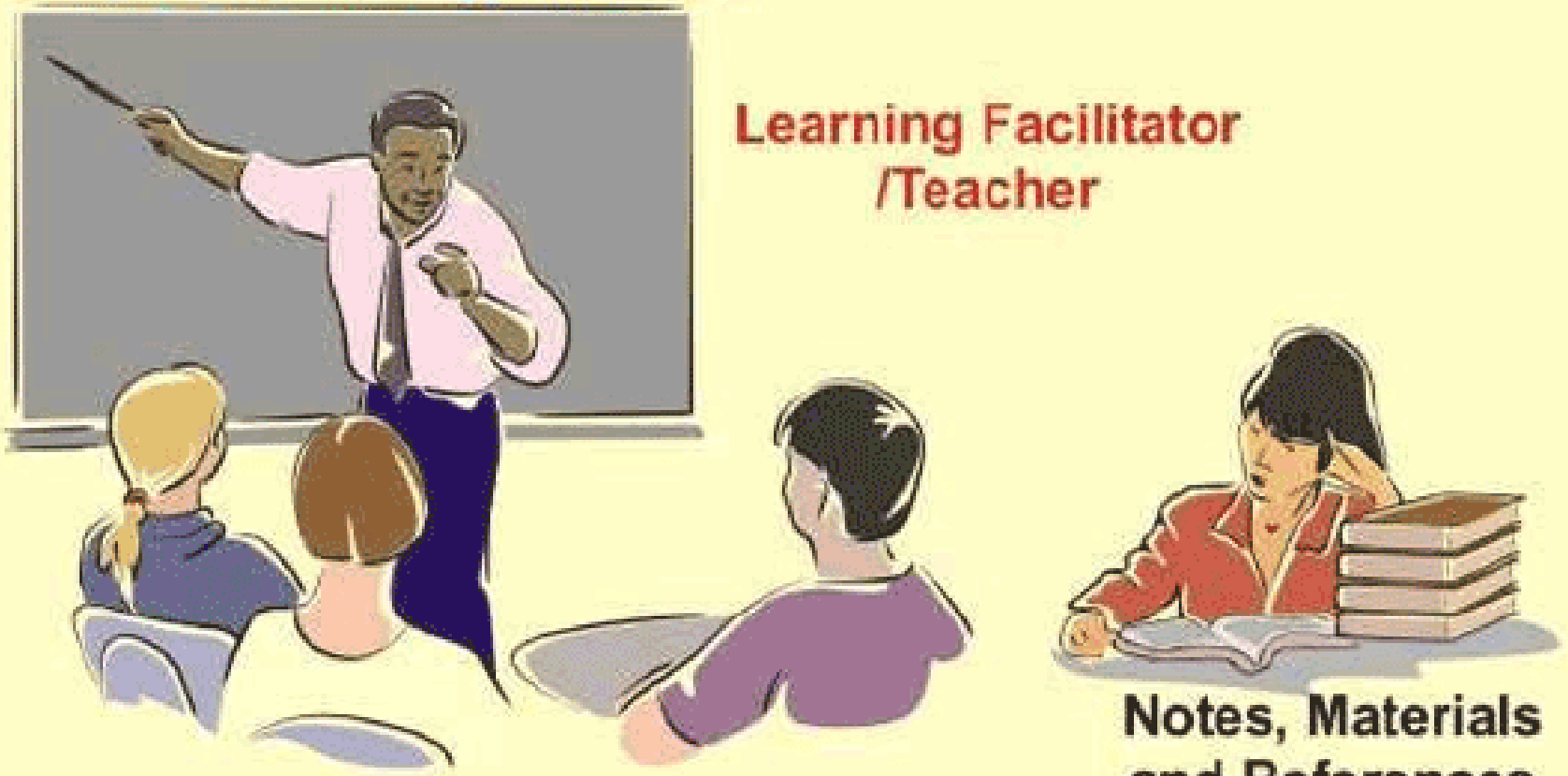
But…. According to Pupil respect index Chart, Students don't respect teachers!!



Why ?

Traditional Classroom and Study

Window to the Physical World



Source: http://www.professorofinfo.com/advantages-of-digital-classrooms-over-the-traditional-ones/

How might we redesign our unit plan to elevate **student engagement** and **academic outcomes**?

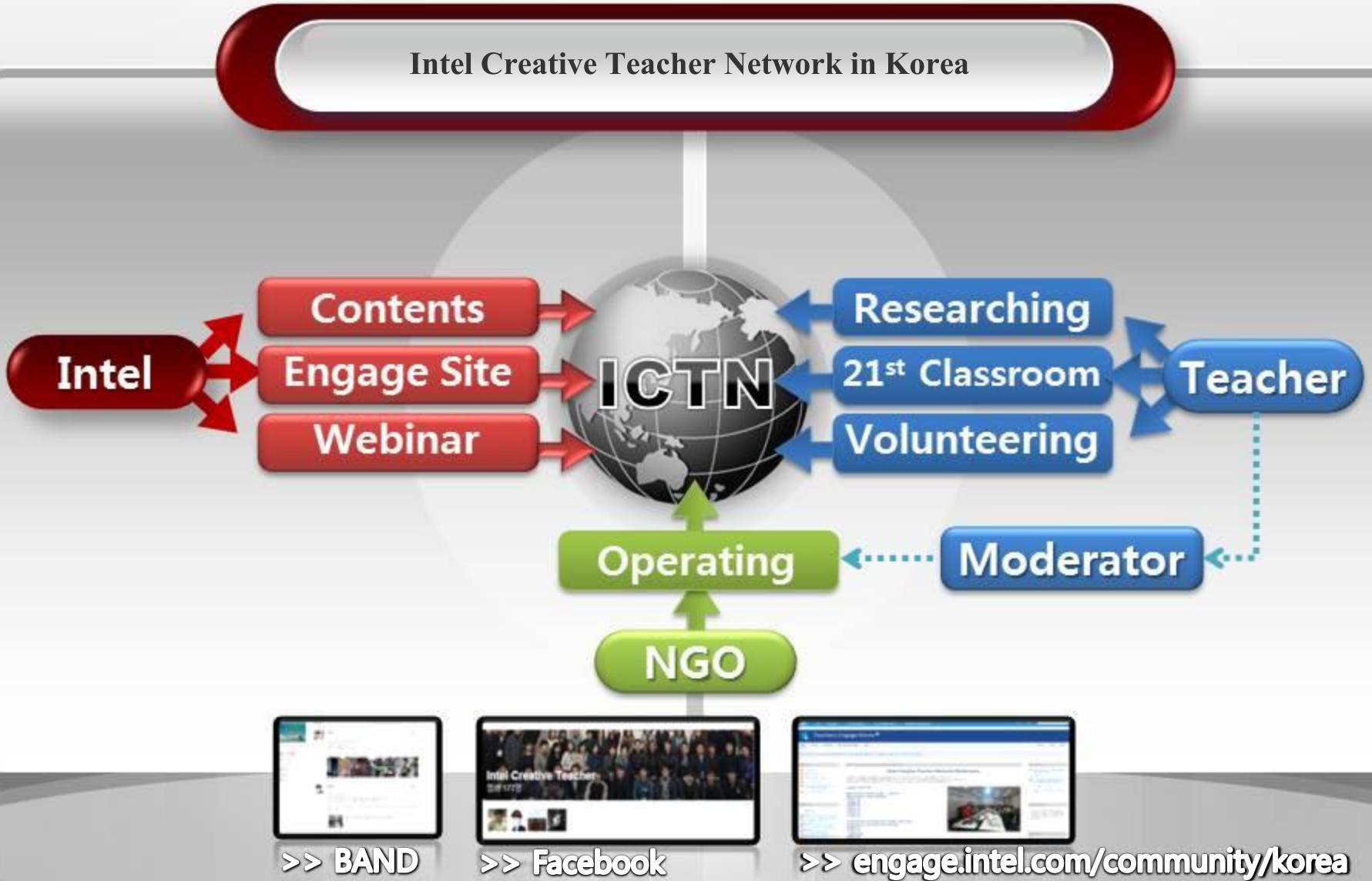
How might we create a **21st century learning experience** at our school?

Intel Creative Teacher(ICT) Network in Korea

- App 80% graduate from univ but most of them turned to be jobless…youth unemployment has been the critical social issue & President emphasizes career education from young age.
- Govt also drove numerous education policies eg smart education, digital textbook initiatives and software/programming education…educators are confused, need to change teaching practices & thirsty for benchmarks.
- Intel brought together passionate and voluntary educators nationwide who were committed to change their classroom practices and offered capacity building opportunities including various teacher PD – 21st century learning, Intel thinking tools, STEM, IOT/Galileo and entrepreneurship efforts.
- Vision: **Learning, Sharing and Taking Action for the Future of Students.**

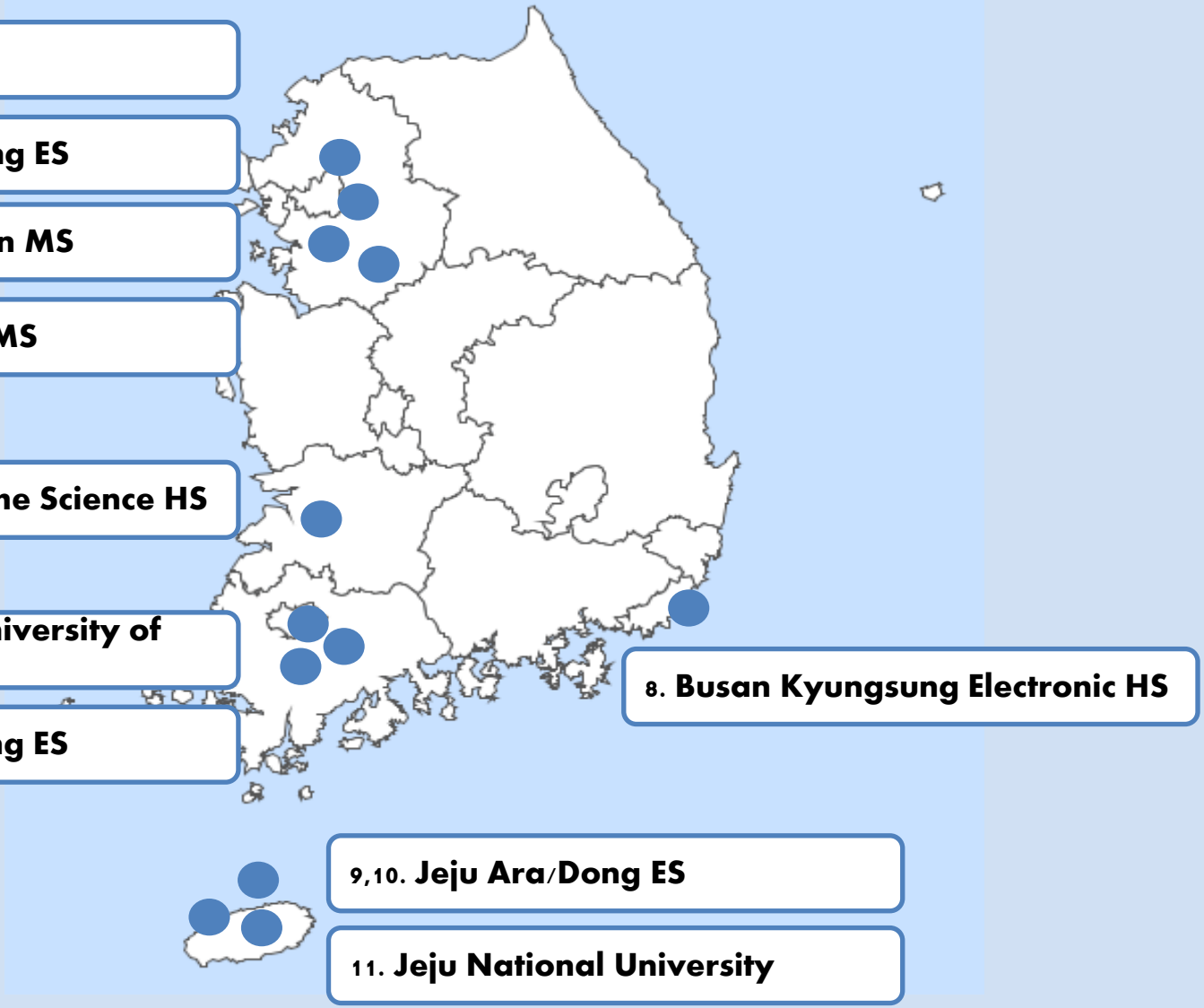
Intel Creative Teacher(ICT) Network in Korea

Collaboration System and Roles



ICTN gives birth to sub communities

1. Seoul YDP HS
2. Seoul Shinnamsung ES
3. Gyeonggi Danwon MS
4. Gyeonggi Sangil MS
5. Jeonju Korea Game Science HS
6. Gwangju Nat'l University of Education
7.. Gwangju Walbong ES
8. Busan Kyungsung Electronic HS
9,10. Jeju Ara/Dong ES
11. Jeju National University



Core Activities led by ICTN

ICTN

F2F Capacity Building

Intensive Workshop

Professional Learning : PBA, Assessing Project, Collaboration, 21st lesson planning, Thinking Tools, ...

Online Capacity Building

WEBINAR Based on Web/Mobile

Community : Intel Engage, SNS(Band, Facebook)
Webinar : Consulting, Professional learning, ...

Policy Influence, Programs

STUDENT CAMP / INNOVATION HUB

Galileo Camp, Career Camp, Software Education, **Innovation Hub**, ...

The Focus: changing own classroom, unit plans through peer consulting process

Best Practice

Practicing in each classroom

Making unit plans

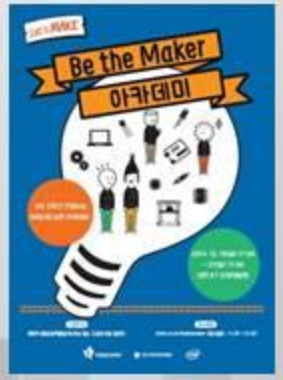
Creating ideas

Consulting

Beyond own classroom…contribute as Innovation Hubs and software Ed leaders

Innovation HUB

Be the Maker Academy



Student Camp

Key resources ICTN is using for Teacher Professional learning efforts

Various Educational Contents Supported by Intel

Teacher Professional Learning

Teacher Professional Learning examples…
From thinking tools

www.intel.com/content/www/us/en/education/k12/teachers.html

intel Menu Find Content | Search

Tools for Student-Centered Learning

Free tools and resources from Intel® Education

Visual Ranking Tool

Help your students identify and refine criteria as they assign rankings to a list. This tool can help them better organize ideas, debate differences, and reach a consensus.

Learn more about the Visual Ranking Tool >

Seeing Reason Tool

Help students understand the cause-and-effect relationships of complex systems. This tool allows them to create visual maps that organize their ideas and build their collaborative reasoning skills.

Learn more about the Seeing Reason Tool >

Showing Evidence Tool

Teach students how to use a visual framework to construct a well-reasoned argument and prove their case with credible evidence.

Learn more about the Showing Evidence Tool >

Assessing Projects

Develop or create assessments that address your students' critical thinking and collaboration skills. You can also learn strategies to help make assessment an integral part of your teaching.

Learn more about Assessing Projects >

…to various 21st century learning curriculum Readily available and free of charge

Inquiry in the Science Classroom

Transition from textbook science to authentic inquiry. Explore ways to develop your students' scientific thinking and practices.

Download the syllabus >

Launch the course (requires newer browsers: Firefox, or Chrome) >

Thinking Critically with Data

Examine critical thinking with a focus on data analysis. This course will help you prepare students to think analytically in our global, knowledge-driven world.

Assessment in 21st Century Classrooms

Learn how to plan, develop, and manage student-centered assessment strategies that can benefit your teaching and your students' learning.

Project-Based Approaches

Explore the features and benefits of project-based learning with classroom scenarios that help you to engage students with self-directed learning.

Download the syllabus >

Launch the course (requires newer browsers: IE9*, Firefox*, or Chrome*) >

Collaboration in the Digital Classroom

Plan and manage collaboration activities that integrate online tools, which are increasingly an integral part of our digital, global world.

Download the syllabus >

Launch the course (requires newer browsers: IE9*, Firefox*, or Chrome*) >

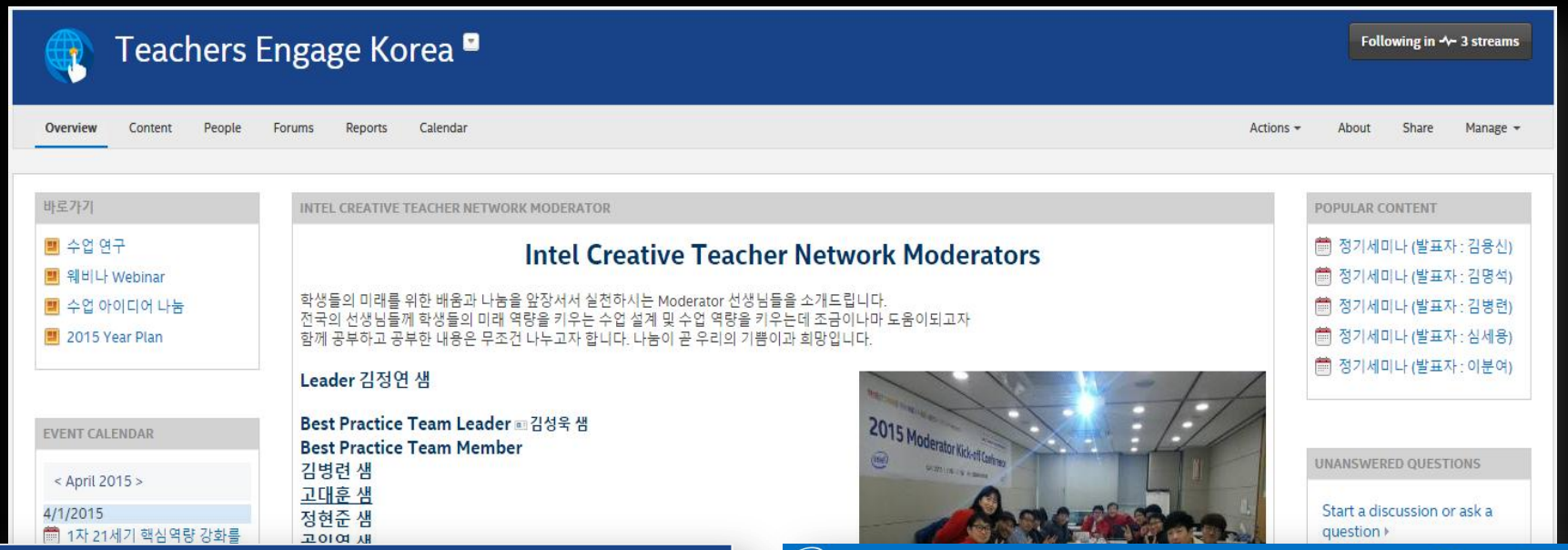
Educational Leadership in the 21st Century

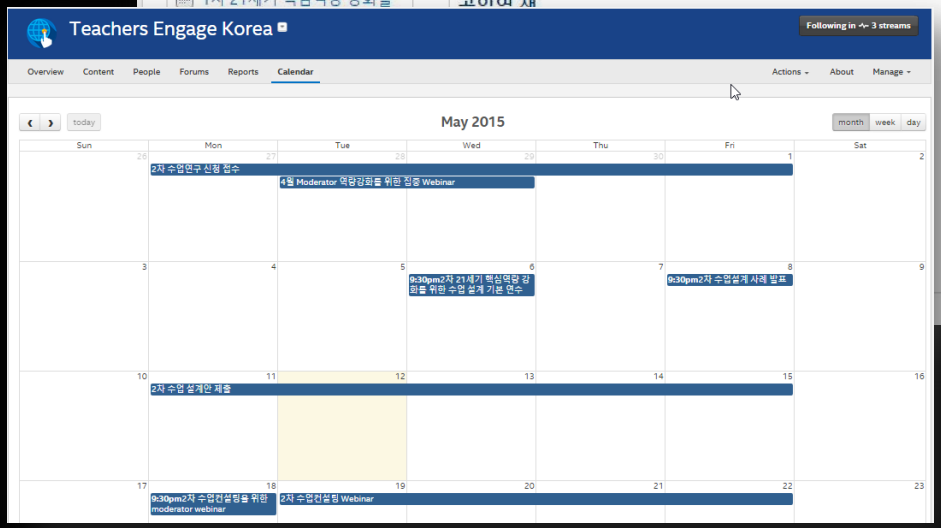
Learn how school leaders can better use technology to help support teacher effectiveness and improve student achievement.

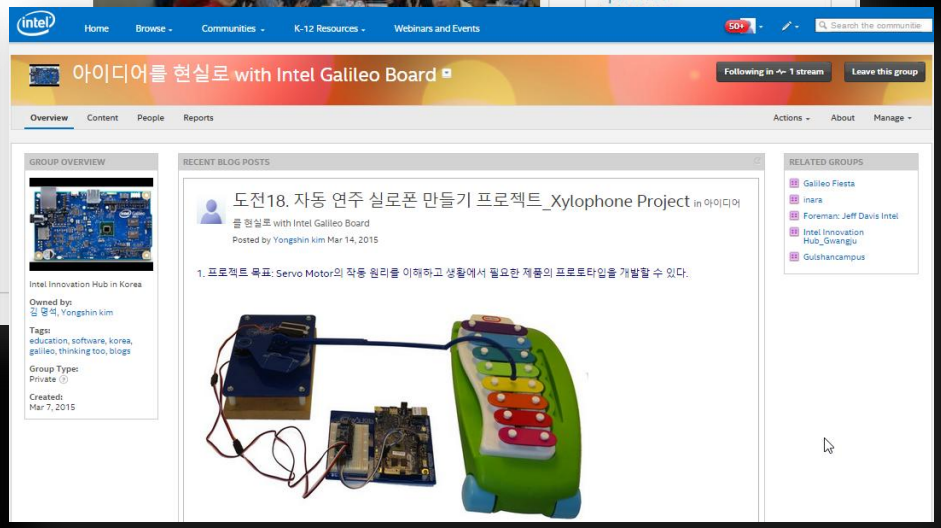
Download the syllabus >

Launch the course (requires newer browsers: IE9*, Firefox*, or Chrome*) >

…Also, “Teachers Engage” serves as the main online community platform for ICTN

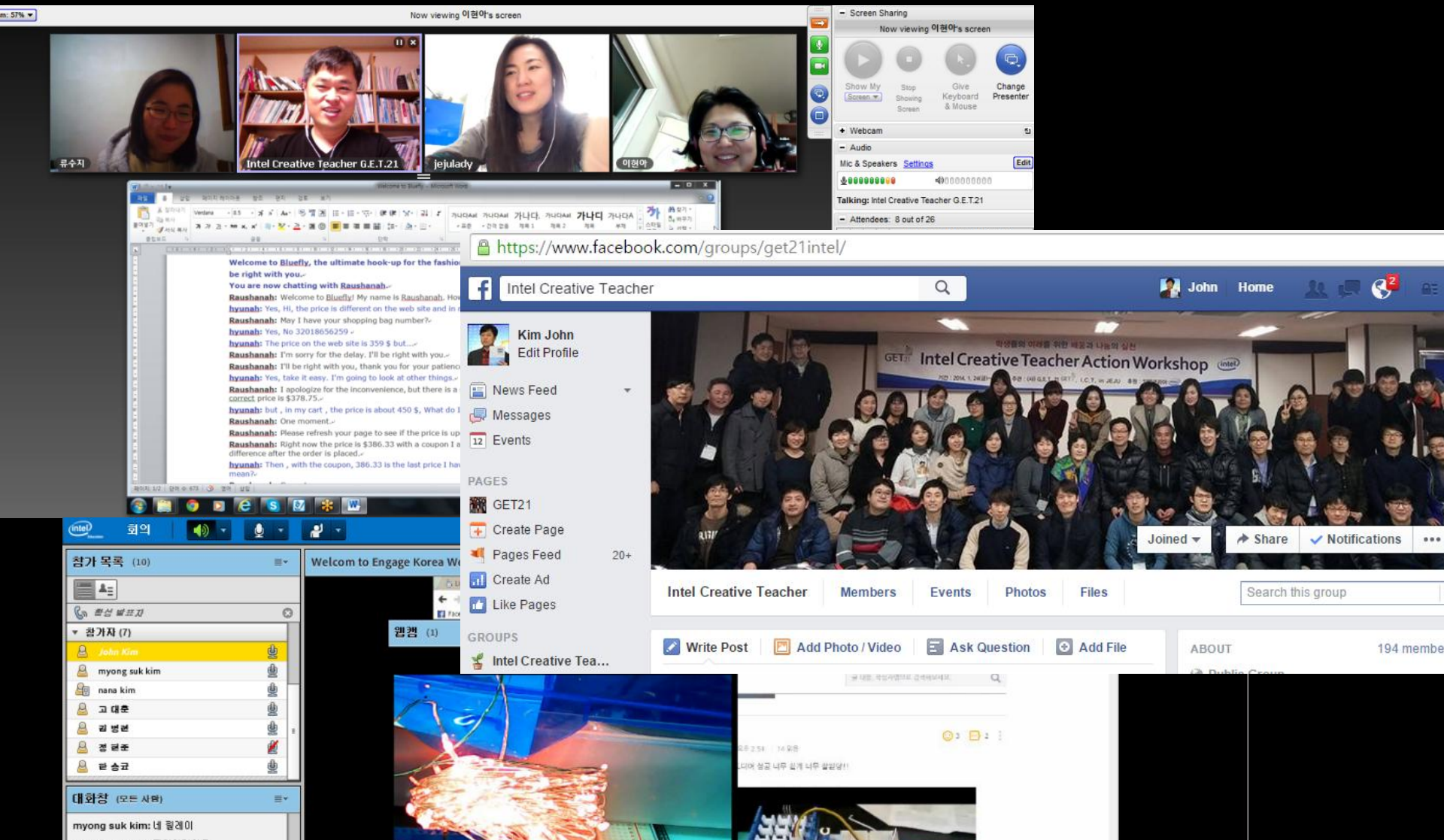






Best Practices for changing own classrooms by ICTN…available at Teachers Engage

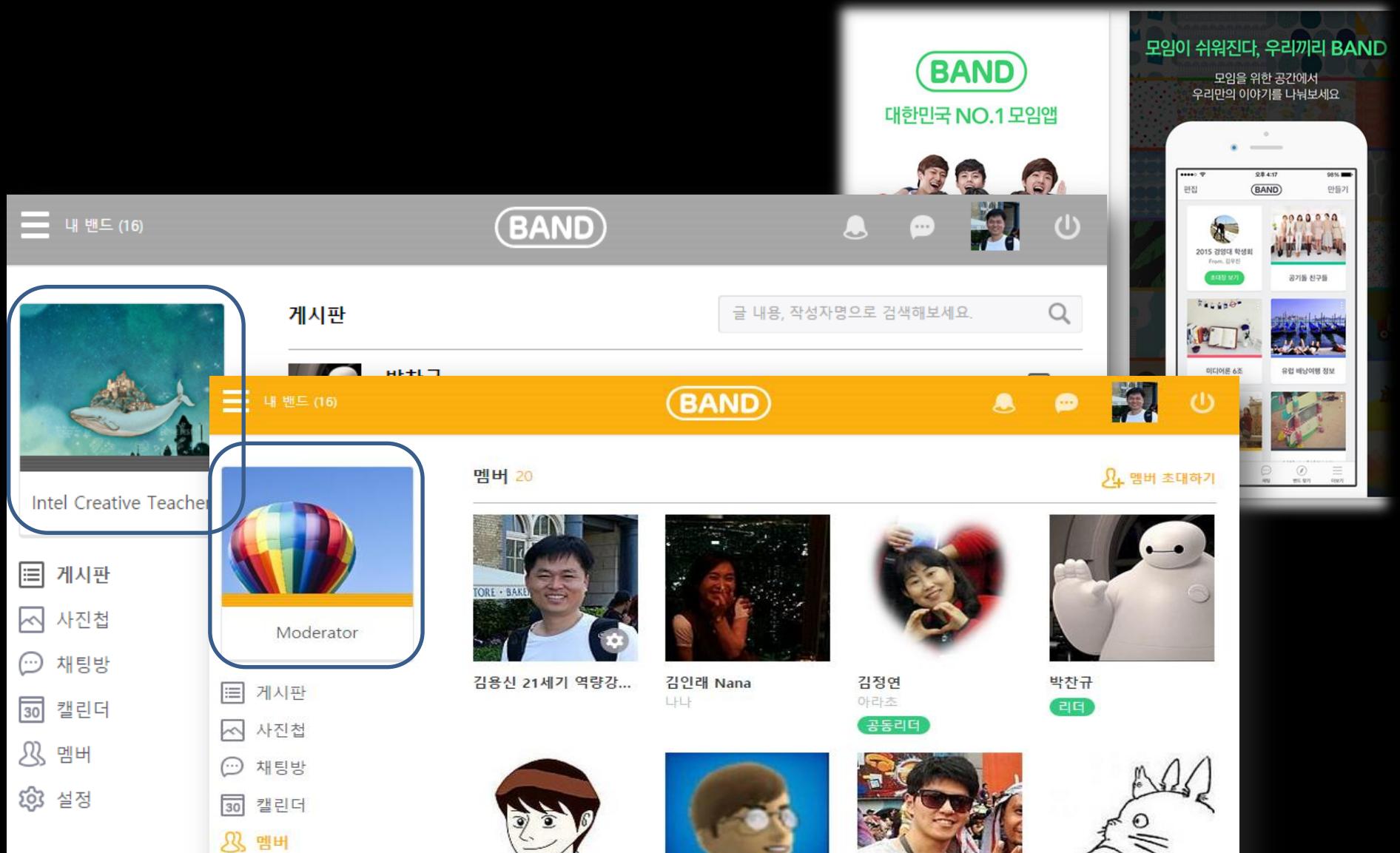
Using all these, Passionate ICTN Meet Day and Night through webinars, Bands and FBs



..in order to share and learn from each other

eal time…power of bottom up and voluntary teacher movement leading to

real changes!



Now, enjoy meeting with ICTN schools, educators and students!

A. Korea's Jeonju Daejung School case: creating plant pot with appropriate technology with Grade 5-6 students led by ICTN teacher

B. Korea's Student Camp using Galileo, where ICTN took risk in creating the content and training aligned with Korea's software/programming policy

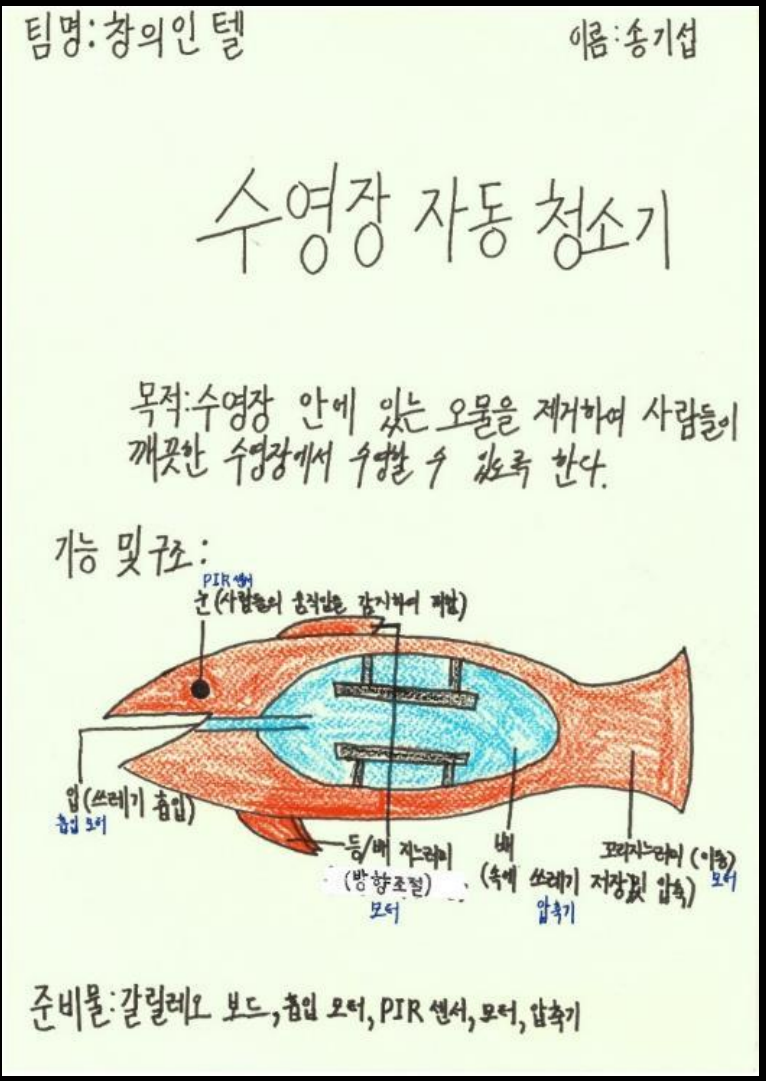
C. "Be the Maker Academy", software/programming education Hackathon led by Korea Govt, where ICTN drives the content and implementation

Video : Daejung Elementary School

Video : Intel Galileo Camp

What will you Make?

Student Idea Brainstorming: 1



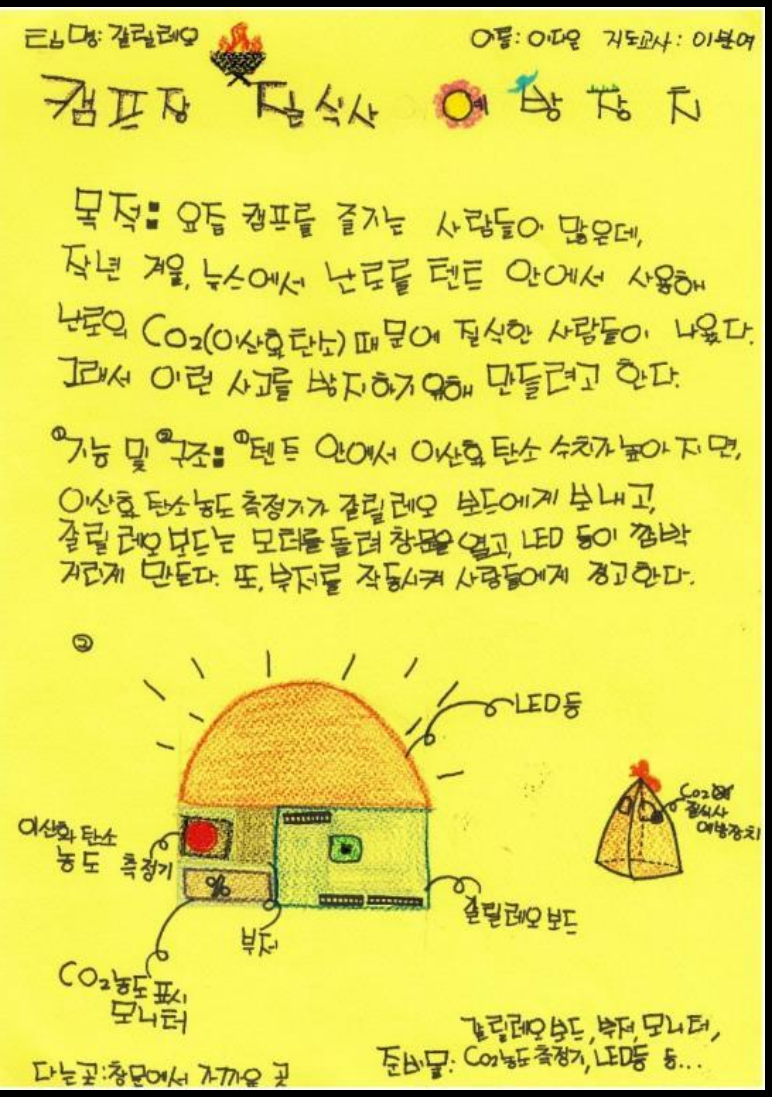
Automatic Pool Cleaner
by: Gisup Song
Goal: To create an electronic fish that cleans a swimming pool, so that people can enjoy fresh water.

Materials: Galileo Board, Motor, PIR (Passive Infrared) Sensor, Vacuum Motor

Details:
PIR Senor is placed in the fish's eye.
Dirt and trash goes into the mouth
The stomach stores the dirt.
The fins move the fish.

What will you Make?

Student Idea Brainstorming: 2



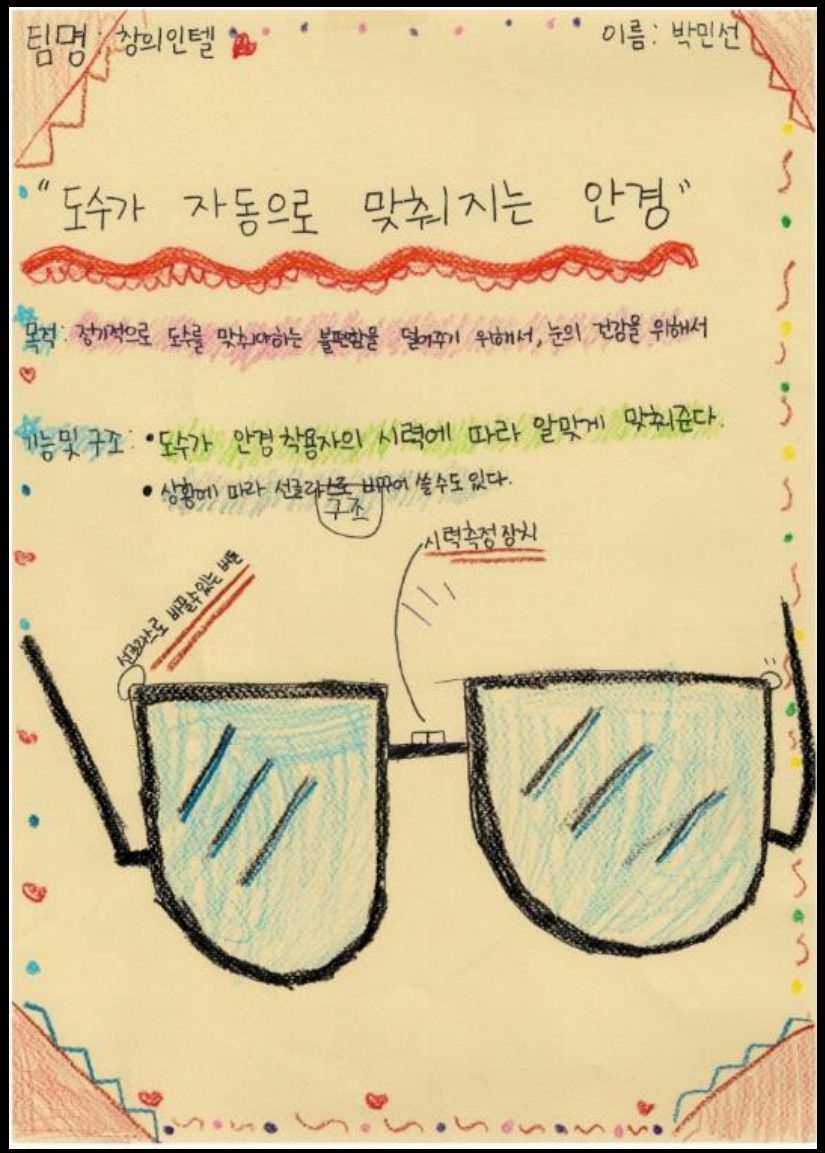
Suffocation Prevention System
by: Jieun Lee

Goal: Many people love to go camping. But people who try to use a stove inside there tent risk suffocation from $C0_2$. We made the Suffocation Prevention System to avoid this.

Function: Place the System next to the tent window. When the sensor detects too much CO_2, the Galileo board sets of an LED alarm and rolls down the window.

What will you Make?

Student Idea Brainstorming: 3



Glasses That Change Itself
by: Minsun Park

Goal: Reducing the annoyance of dealing with changing prescription. Improving eye health.

Function: The prescription changes according to the users eyes. Changes to sunglasses according to the situation

Video : The Makers Academy

Key Impacts of ICTN

"Growth To The Influential Group"

Student Awards and Policy Influence

- Gold medal at the skill Olympics regional trials
- **3 awards** : SW Development, Electronic Machines, Electricity

- Special Prize at International Internet Film Festival
- Invited to the **National Assembly**

- Sustainable Education Development Forum through Software Education
- Invited to the National Assembly

In Summary

Challenges

1. Engagement
2. 21st Century Skills

Needs

1. Students centered resources
2. Professional Learning Community

Solutions

1. Partnership with Intel Education
2. Nationwide Teacher Community
3. Teacher Train the Teacher

Results

Build Intel Creative Teacher Network for PL
Share classroom ideas
Influence policy and government
Build Innovation hub at Core Local Area
More and more students respect their teacher

ICTN in Korea: 2 years journey what we've learned:

A. In order to prepare students for 21st century challenges, **teachers much change first.**

B. **Focus on changing own classroom** e.g. 21st century unit plan and student engagement using technology

C. Teachers need HELP: **a professional learning community** is critical to make changes & influence policies.

D. **Social Media** places important roles for just in time learning and sharing

E. **Scaling and sustaining** the teacher community is challenging but worthy: need everyone's engagement (Gov't, Private Sector, Educators, NGOs etc)

Key Next Steps

1. Empower to Core Leader Group
2. Enhance to Local Innovation Hub
3. Expend the opportunities to learn through F2F and Online

Recommendation for you

1. Invite Global education experts
2. Join ICTN for sharing classroom ideas, etc

외부
전문가
Open
Creators

Win Win

Sharing Valuable Time

관심 있는
전국 리더
교사

학생, 미래, 배움, 나눔, 실천
ICTN – 수업 설계 역량 강화

기업 CSR
Intel

교육컨설턴트
John
Brain English

Partner
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관심 있는
전국 리더
교사

- **Personalized Learning with One to One** 수업 설계
- 창의력, 문제 해결력 신장을 위한 **SW** 수업 설계

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Q & A