Advances in knowledge building theory, pedagogy, and technology throughout the international Institute for Knowledge Innovation and Technology

Marlene Scardamalia

Institute for Knowledge Innovation and Technology
University of Toronto

Centre for
Information Technology
in Education

Faculty of Education
The University of Hong Kong

Empowering Communities Transforming Learning

CITE Research Symposium 2008

5 - 7 June 2008

Empowering Communities and Transforming Learning

CITE Research Symposium 2008
5 - 7 June 2008

Centre for Information Technology in Education

Faculty of Education
The University of Hong Kong

Knowledge Society: *Bringing Ideas Into the World*

- Philosopher--Pierre Lévy
  Emergence in cyberspace: A new 'knowledge space' linked to the evolution of *new knowledge*
- Economist--Paul Romer
  Health and wealth of nations: Economic viability tied to the generation of *new knowledge*
- Management Guru--Peter Drucker
  Social transformations: "Education will become the center of the knowledge society"

How are *"Knowledge Creation"* and *"Knowledge Building"* Related?

- They are synonymous.
- "Knowledge creation" (1 million Google references) is the term commonly used in business and research laboratory contexts.
- "Knowledge building"(.5 million Google references) is more commonly used in educational and NGO contexts.
- We prefer "knowledge building" in educational contexts: it is less difficult to believe children can build knowledge than that they can create it; the process is the same.

Pedagogical Shift of Greatest Consequence: From Guided Discovery to Knowledge Creation

Guided Discovery is Essentially Belief Mode Activity: Hypothesis Testing

Knowledge Creation is Working with Ideas in Design Mode: Theory Development and Explanatory Coherence

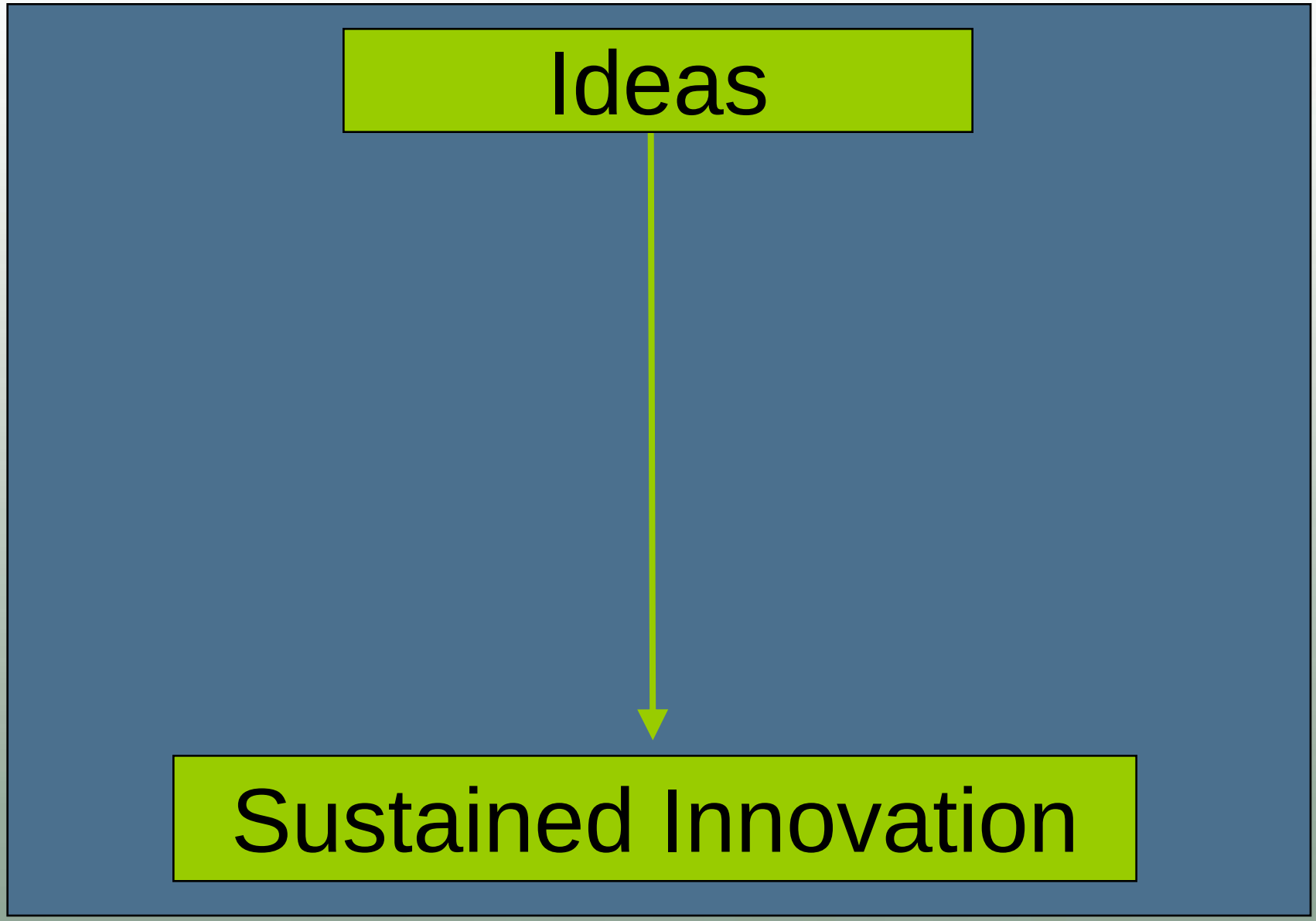
Beyond Learning to Knowledge Building

- Beyond an effort to keep abreast of advancing knowledge to contributing to its advancement
- Beyond cultural replication and lifelong learning to lifelong innovation

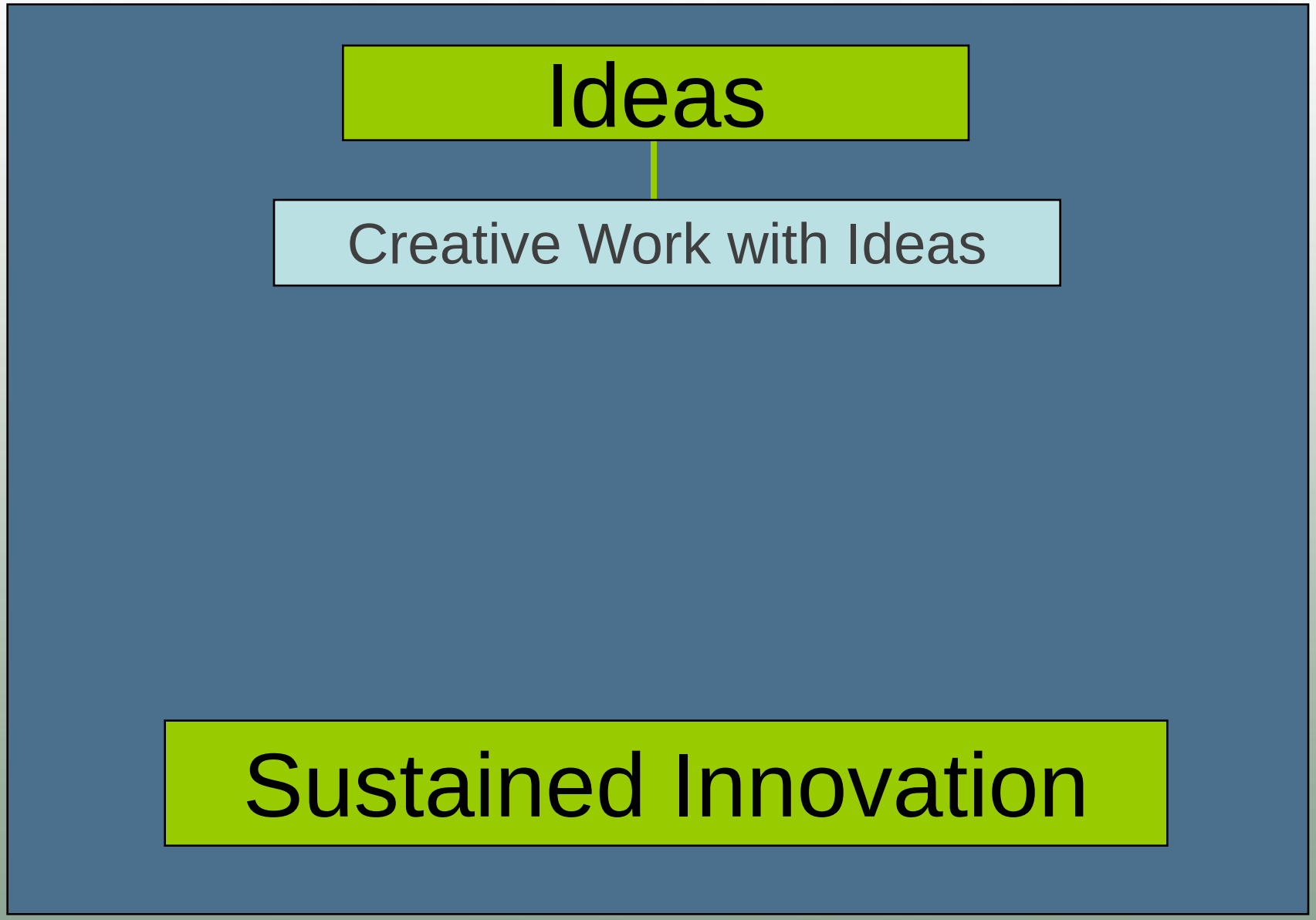
Education for Sustained Innovation

Ideas

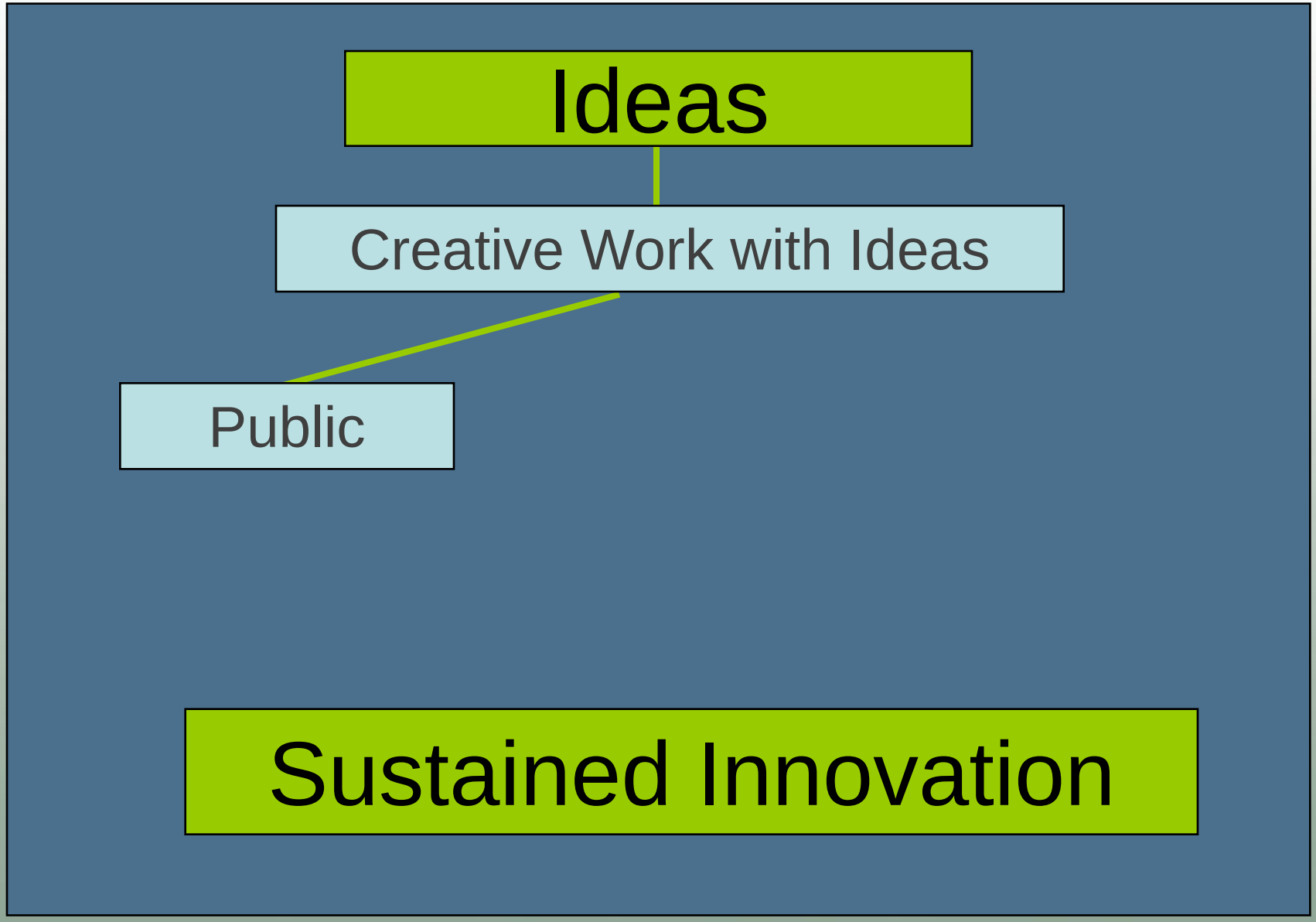
Education for Sustained Innovation



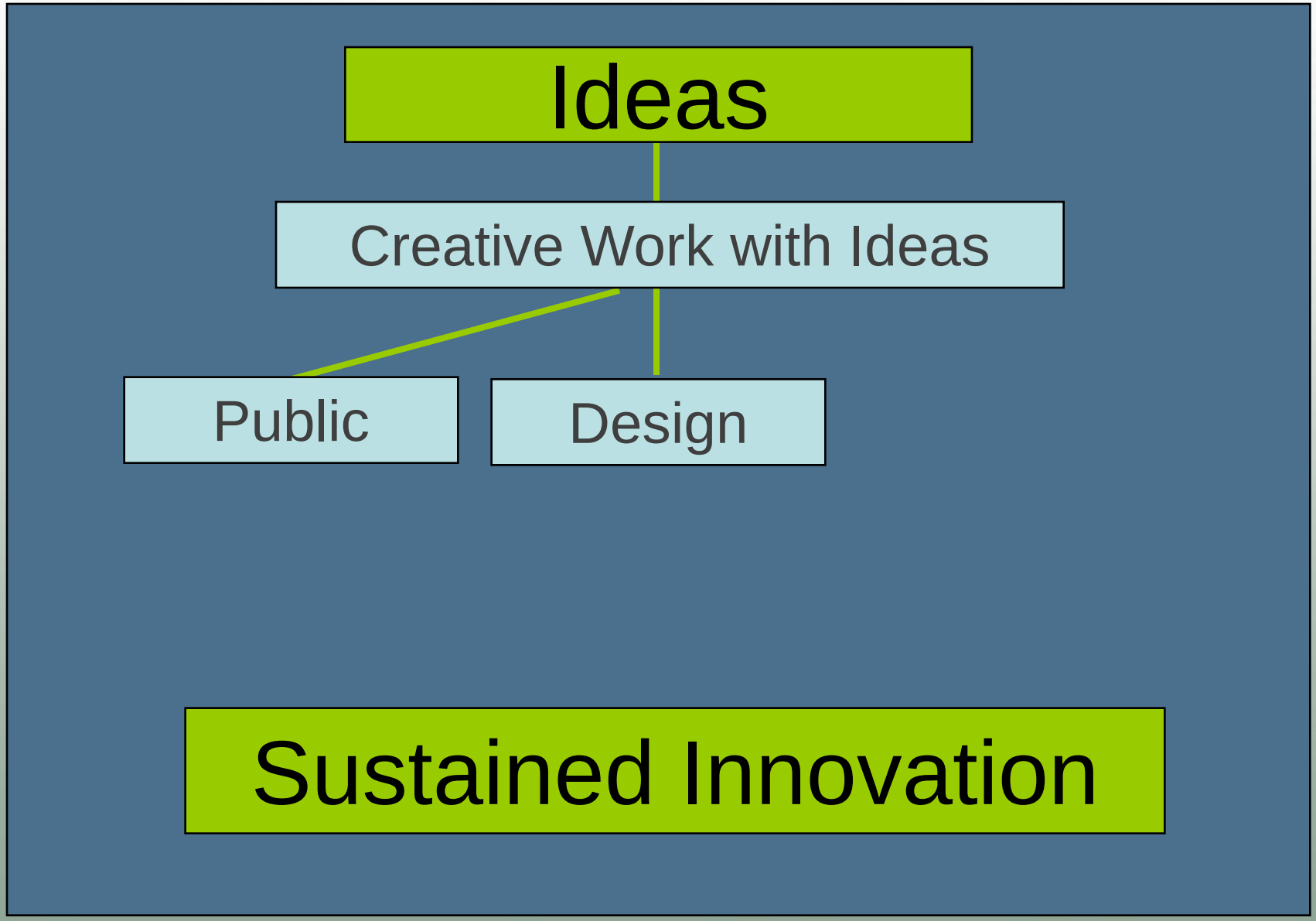
Education for Sustained Innovation



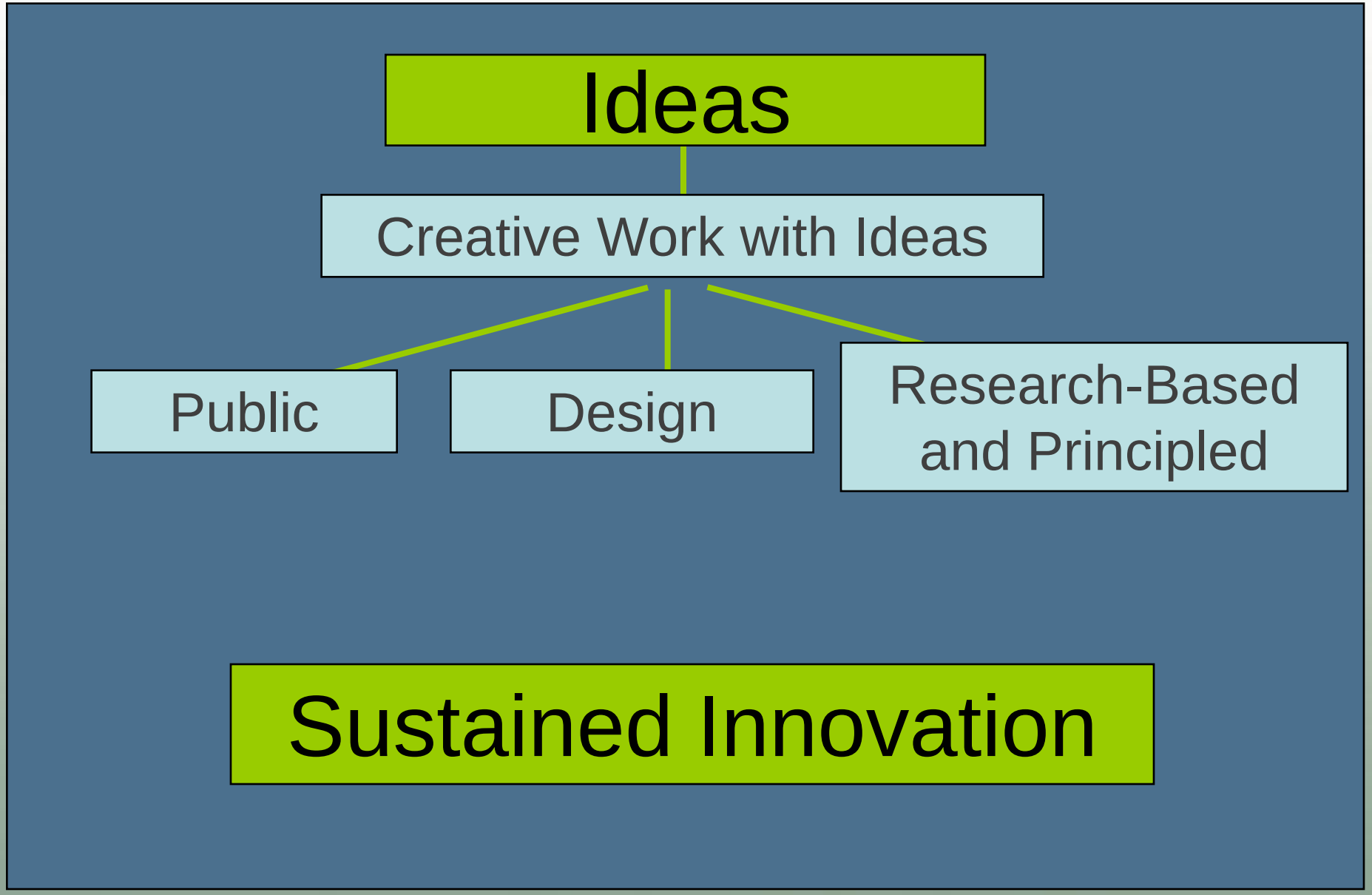
Education for Sustained Innovation



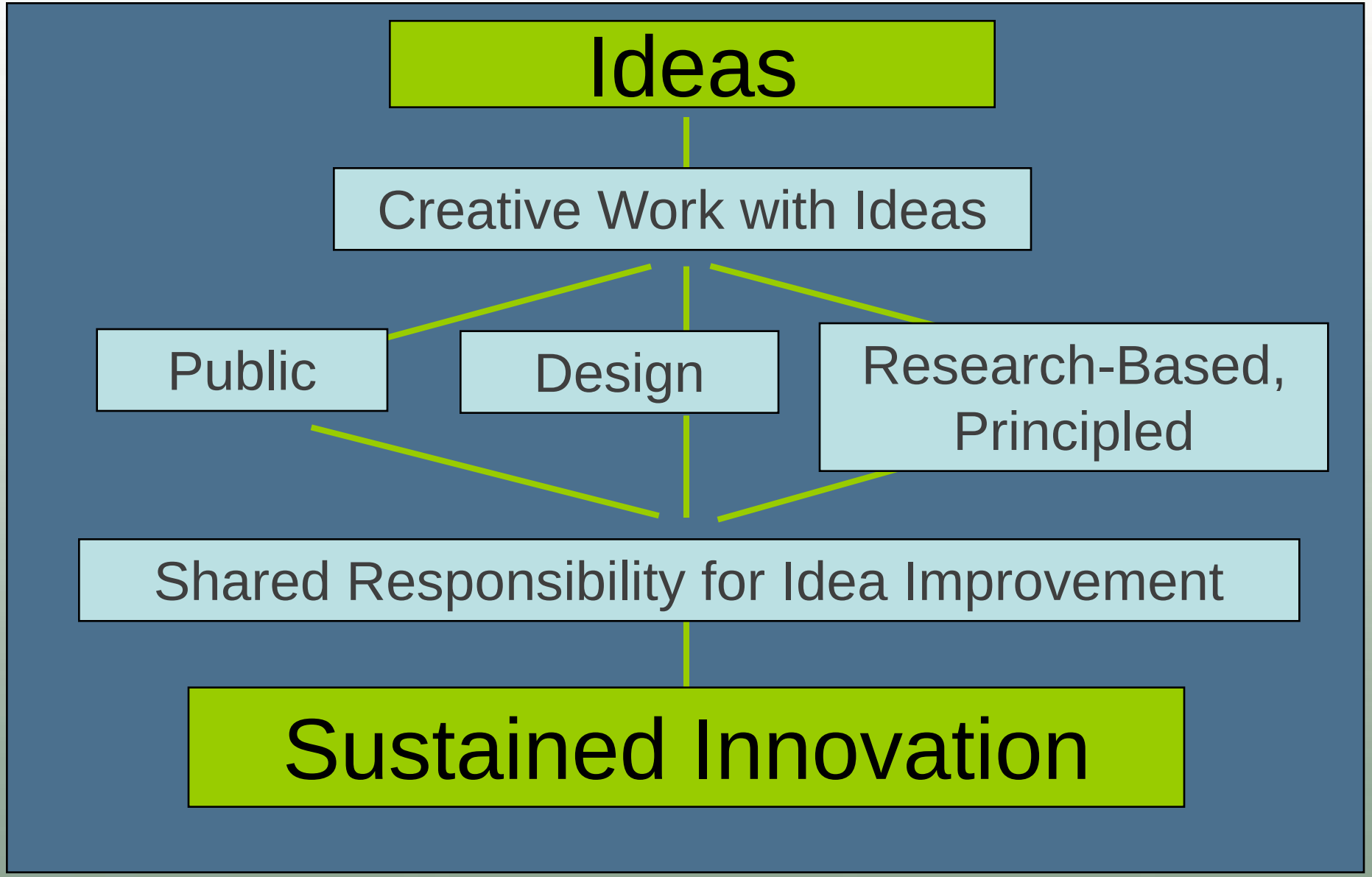
Education for Sustained Innovation



Education for Sustained Innovation



Education for Sustained Innovation



Scientists, scholars, and employees of highly innovative companies engage in knowledge building as a normal part of their work.

A growing number of innovative teachers are creating knowledge building communities in their classrooms, and demonstrating significant advances in areas across the curriculum, along with basic literacy, graphical and computer literacy, and a host of 21st-century abilities such as team-work, problem solving, idea creation and improvement.

Knowledge Building: Transforming Educational Dynamics

Local Communities: Producing knowledge of value to their community, and continually improving it

Globally Linked Communities: Producing knowledge of value to communities beyond the local community, and enjoying symmetries of knowledge advancement

Transformation I: Educational Experience Centred on *Creative Work with Ideas*—Not Tasks or Activities

Rise-above note on “Rainbows”

Rainbow rise-above

by [redacted], [redacted]

Last Modified: Aug 05 2002 (23:41:46)

Problem: how are rainbows made?

Our Understanding is there is 7 colors Red, orange, yellow, green ,blue, indigo, and violet. Rainbows are made by leftover raindropes on bushes and trees that act like a prism that casts a rainbow.

What we still do not understand is that why are raibows so big on such small raindrops but so small on a prism that's bigger than a raindrop.

Rise-Above for "Rainbow rise-

- Light is like a ball
  by: [redacted], [redacted] Last modified: May
- Rainbow
  by: [redacted] Last modified: Feb 15 2002
- How are rainbows made
  by: [redacted] Last modified: Feb 18 2002
- How a rainbow works
  by: [redacted], [redacted] Last modified: Feb
- what are rainbows?
  by: [redacted] Last modified: Mar 08 2002
- What are Rainbows made out of?

Transformation II: Knowledge Work Conducted in *Design Mode* As Well As *Belief Mode*

Design mode and belief mode are distinguished mainly by the kinds of questions asked

Belief Mode

- What does this statement mean? (comprehension)
- Is it true?
- Is it logical?
- What's the evidence?
- What are the arguments for and against?

Design Mode

- What is this idea good for?
- What does it do and fail to do?
- Does it have a future?
- How could this idea be improved?

Help students work in design mode by contributing to the collective creative effort

- asking stimulating questions
- finding answers to questions on the Web
- explaining
- theorizing
- using analogies
- identifying possible causes
- thinking of design improvements
- developing half-baked ideas into well-worked-out ideas
- constructive criticism
- using diagrams to communicate and analyze
- negotiating and persuading
- anticipating problems
- restating others' points of view
- combining seemingly unrelated ideas
- producing realistic action plans
- seeking alternative solutions to problems

Advantages of Focus on "Ways of Contributing" to Public Knowledge

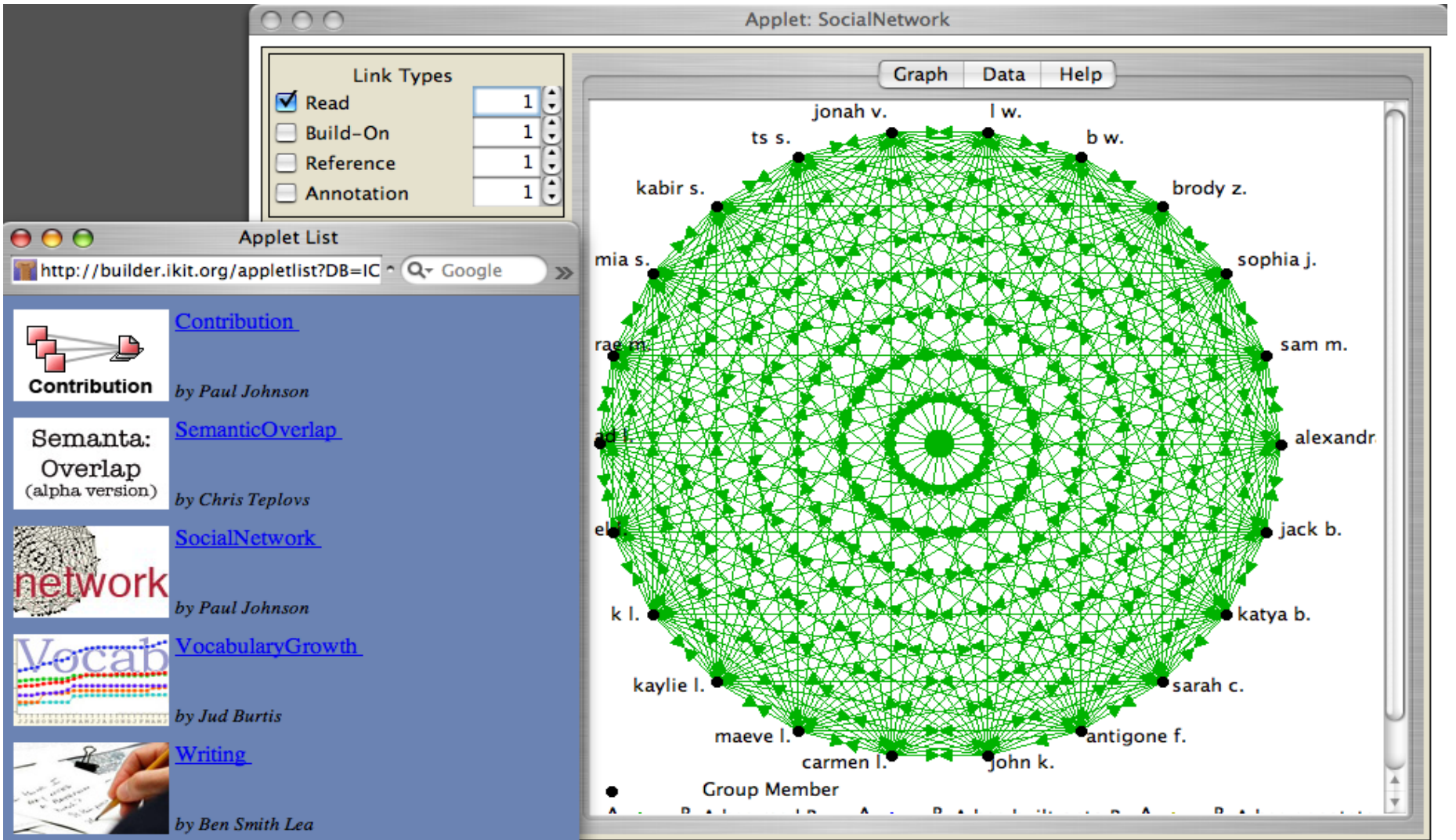
- Focus is on observable things that people do in creative knowledge work
- Student are engaged in ways they can reasonably *try* to get better at

Implication:

- Engage ALL students in collaborative creative knowledge building
- Call attention to ways different students are contributing
- Help students recognize ways they could improve their overall contributions
- Develop ways of contributing that draw on their unique strengths and inclinations.

Transformation III: Emphasis on *Research-Based and Principled Knowledge Work, with Shared Responsibility for Idea Improvement*

Ways of Contributing:
Democratization of Knowledge
Collective Responsibility for Idea Improvement



Shallow Constructivism	Rating/ Example	Deep Constructivism	Rating/ Example
Collaborative Learning --> Community Knowledge			
COLLABORATIVE LEARNING		COMMUNITY KNOWLEDGE; COLLECTIVE RESPONSIBILITY	
Differential Participation-- > Equitable Participation in Knowledge Work			
INDIVIDUAL DIFFERENCES		DEMOCRATIZING KNOWLEDGE	
Authenticity: Teacher--> Student Point of View			
MEANINGFUL ACTIVITIES		REAL IDEAS, AUTHENTIC PROBLEMS	
Canonical Knowledge --> New Knowledge			
CURRICULUM		IDEA DIVERSITY	
Belief Mode/Right-Wrong--> Design Mode/ Continual Improvement			
INQUIRY: QUESTION-ANSWER		IMPROVABLE IDEAS	
Comprehending/Finding Answers--> Advancing the State of Knowledge			
UNDERSTANDING GIVEN INFORMATION		CONSTRUCTIVE USES OF AUTHORITATIVE SOURCES	
Self-Regulation/Student Choice --> Taking Charge at the Highest Levels			
STUDENT INPUT /CHOICE		EPISTEMIC AGENCY	
Truth --> Ever-Advancing Understanding			
DISCIPLINED DISCOURSE		KNOWLEDGE BUILDING DISCOURSE	
Best Practice --> Beyond Best Practice			
CONSENSUS		RISE ABOVE	
Guided Discovery --> Knowledge Creation			
HIGHER-ORDER THINKING		PERVASIVE KNOWLEDGE BUILDING	
Externally Defined Benchmarks --> Self Organization			
STANDARDS		CONCURRENT, EMBEDDED AND TRANSFORMATIVE ASSESSMENT	
Local Community --> Global Community			
HIGH-PERFORMING CLASSES		SYMMETRIC KNOWLEDGE ADVANCEMENT	

Technology Innovation

Knowledge Forum

Knowledge Building

Social Innovation

Advanced Information Technology Specially Designed for Knowledge Creation

Knowledge-based societies and economies need to engage in practices fine- tuned to knowledge creation

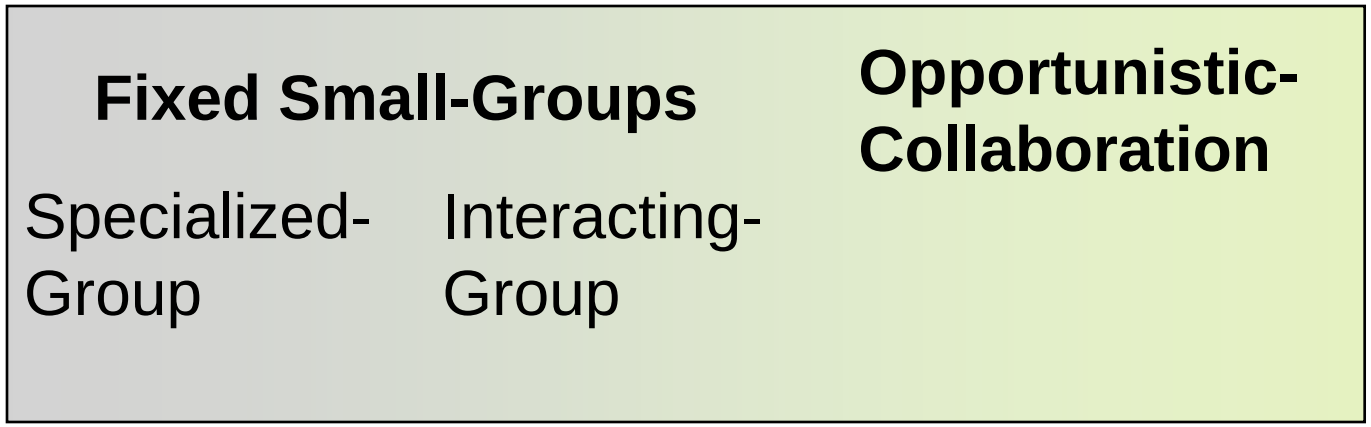
Principle-Based Dynamics of Knowledge Building

Jianwei Zhang, Marlene Scardamalia, Richard Reeve, Richard Messina

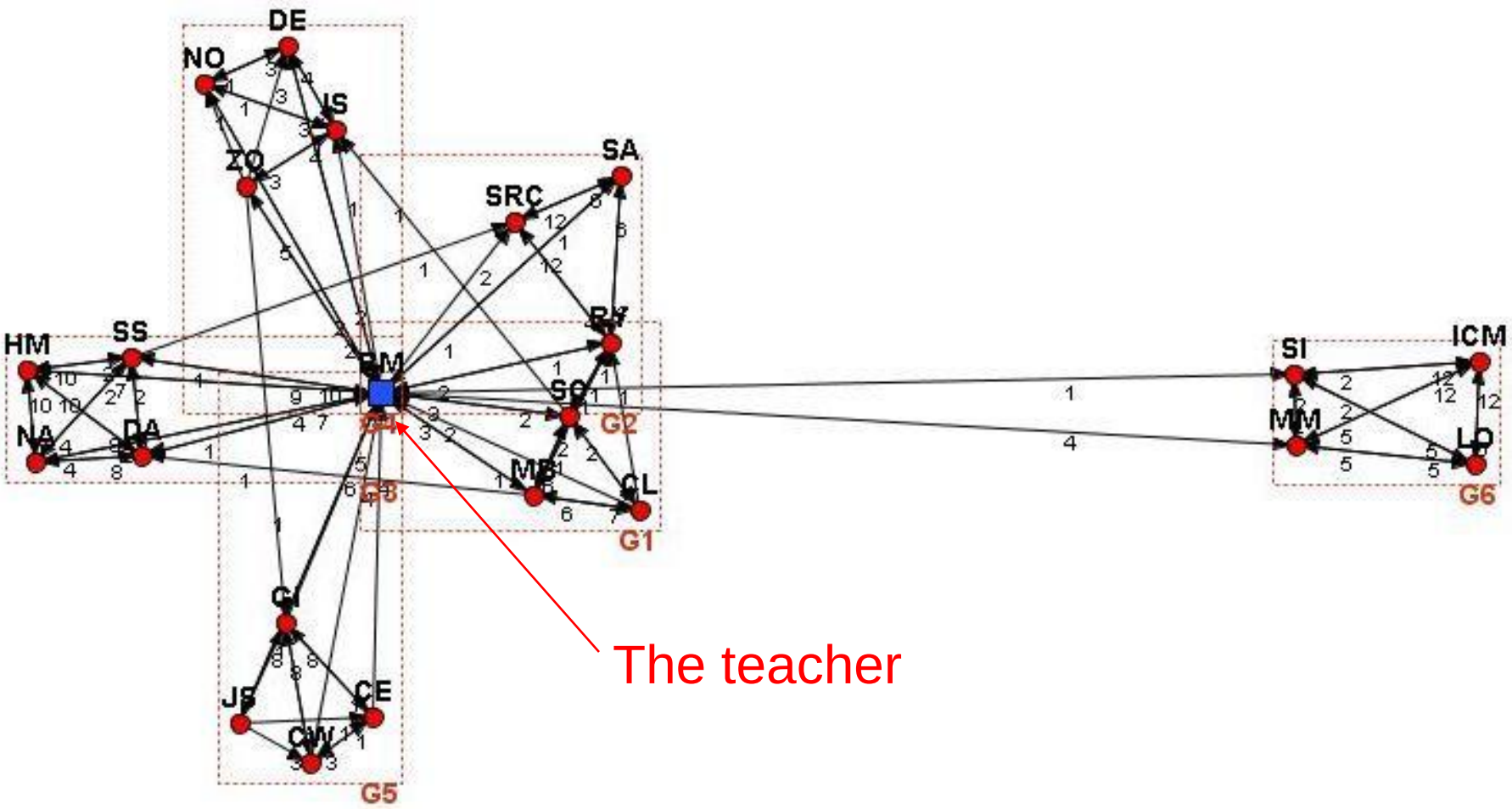
Collective Responsibility for Idea Improvement

- Social dynamics in knowledge creation (e.g., Csikszentmihalyi, 1999; Brown & Duguid, 2000).
- Sustained, creative knowledge work can be better supported through distributed, flexible, adaptive, social structures (Amar, 2002; Chatzkel, 2003; Sawyer, 2003; Williams & Yang, 1999).

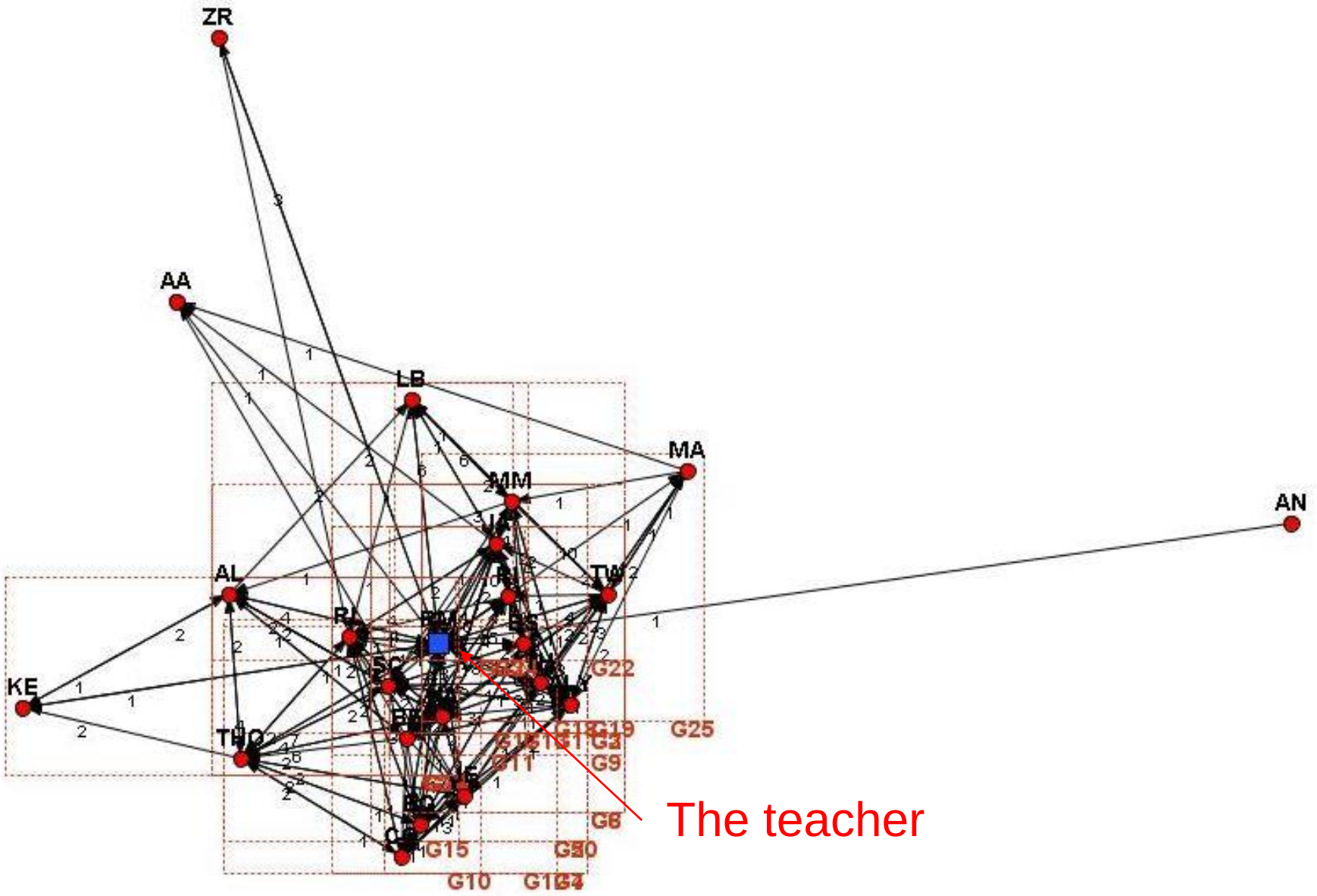
A Spectrum of Designs



Cliques (sub-communities)

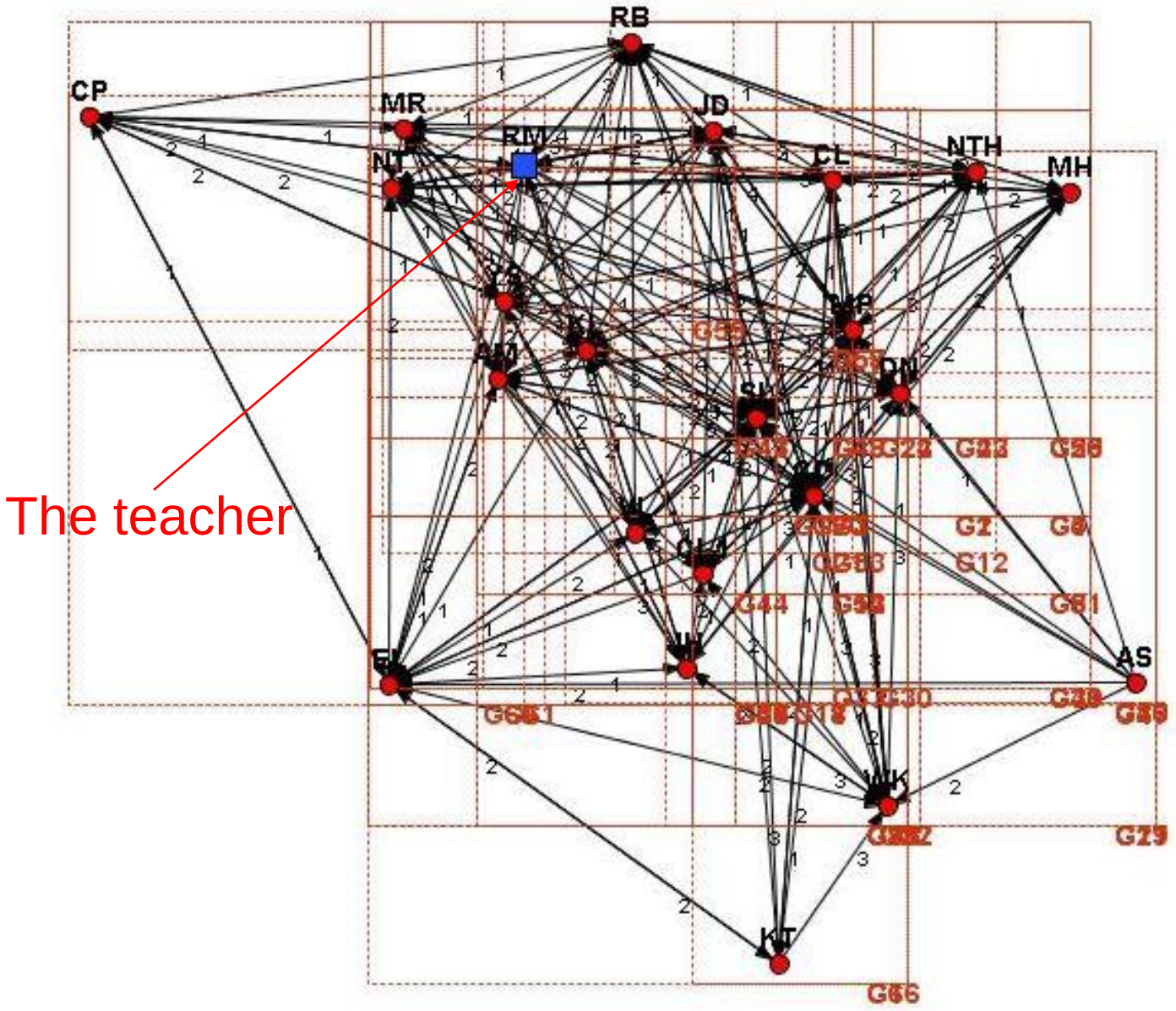


Year 1: Specialized-group

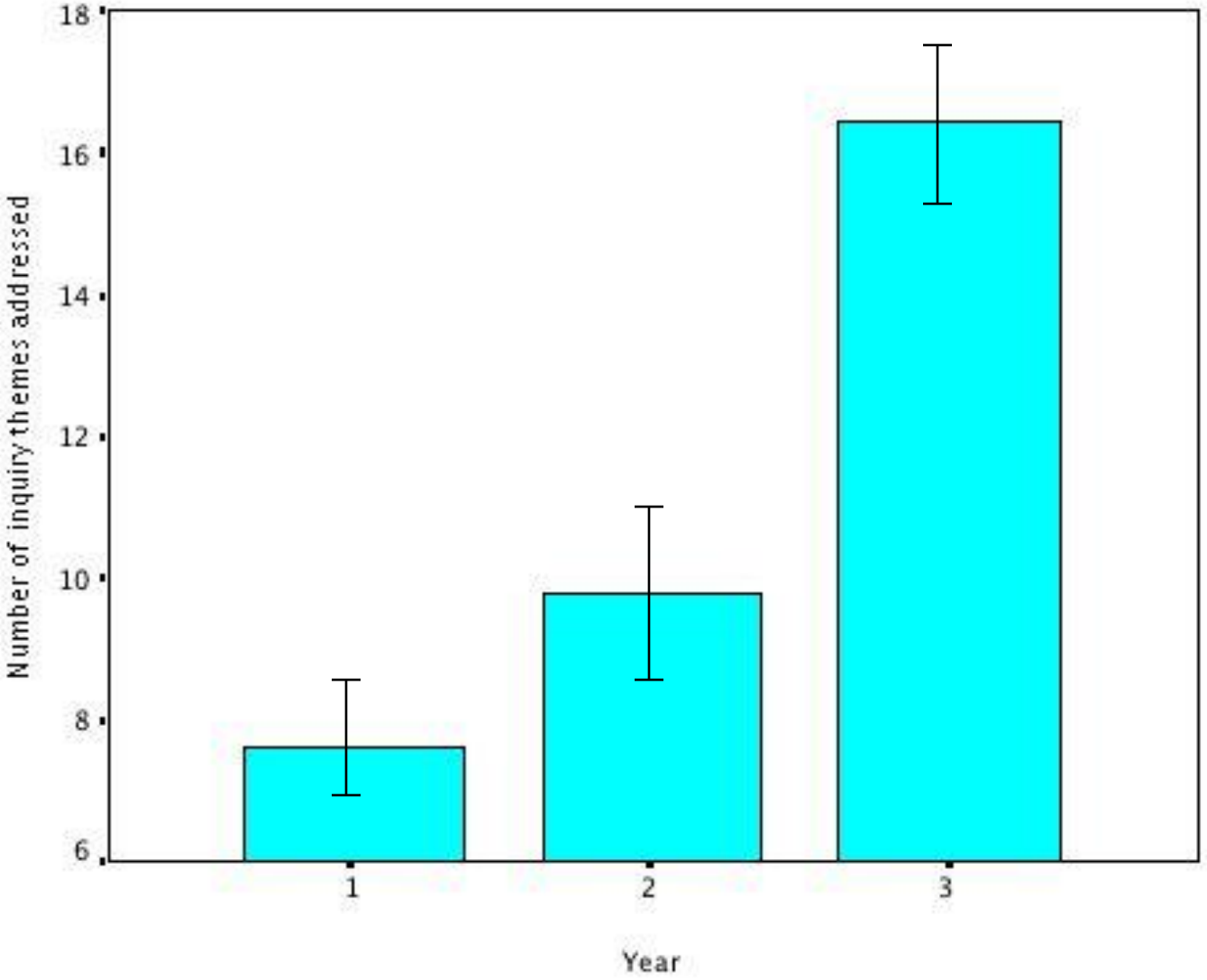


The teacher

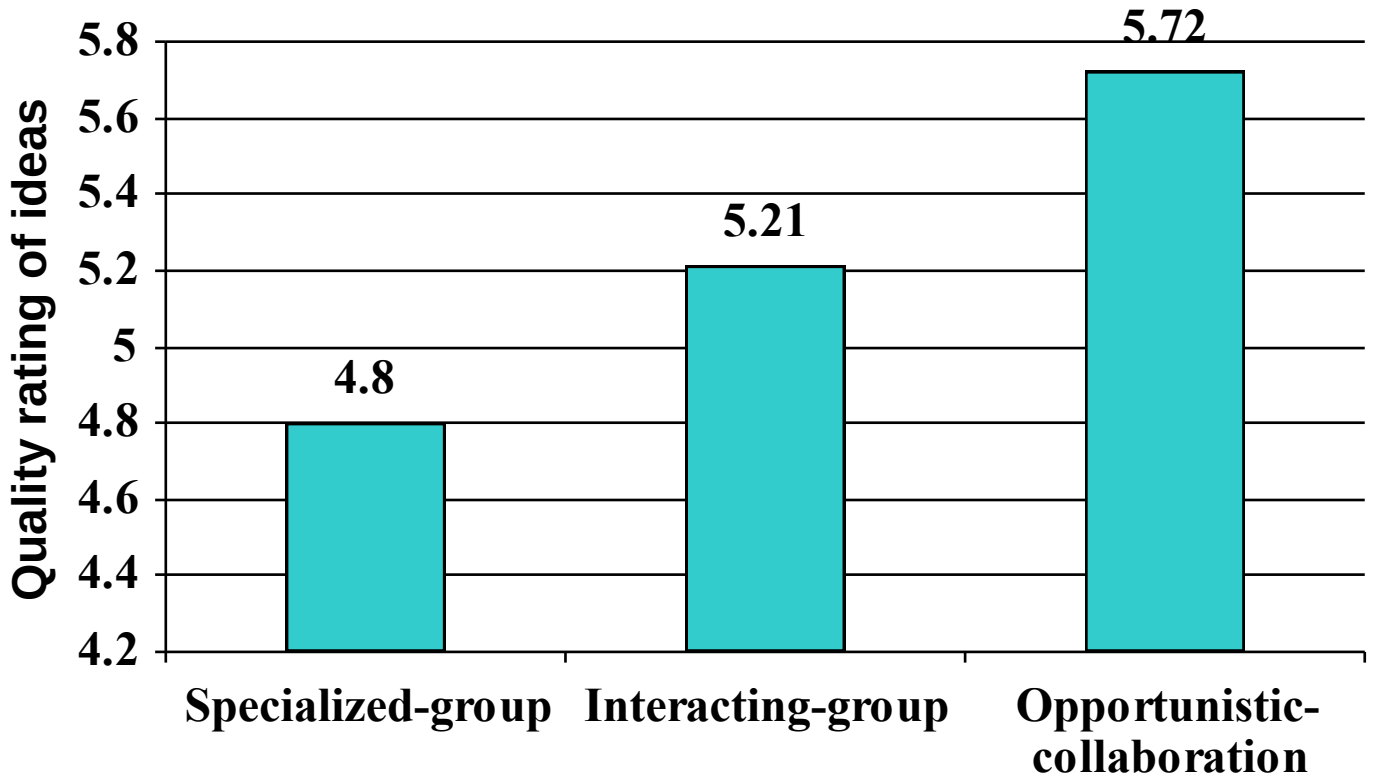
Year 2: Interacting-group



Year 3: opportunistic-collaboration



Mean number of inquiry themes about which a student reported knowledge advances in his/her portfolio note ($F(2, 63) = 64.14$, $p < .001$).



Student ideas were rated based on scientificness and depth/complexity. ($F(2, 63) = 5.69$, $p < .01$, $\eta^2 = 0.15$).

Innovation Must Become Part of the Normal Way of Life in Education at All Levels

Peter Drucker:

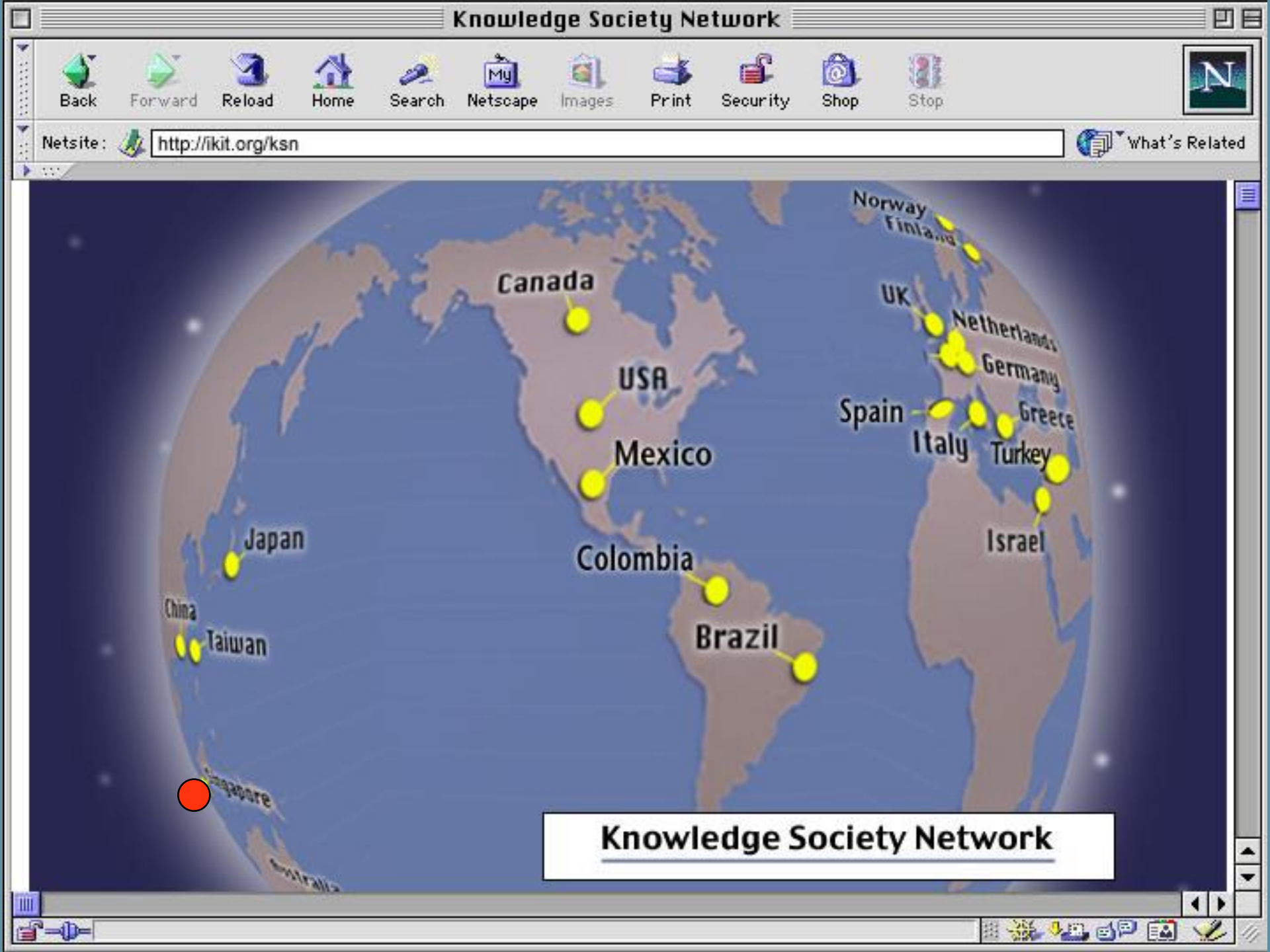
"When innovation is perceived… as … a heroic achievement, there will be no innovation. Innovation must be part and parcel of the ordinary, the norm, if not routine."

Knowledge Society: *Beyond Brainstorming to Bringing Ideas Into the World*

The challenge in all knowledge-based organizations is *sustained creativity*.

Working with and developing ideas into powerful and useful processes, products, or theories.

Coming up with the initial idea represents one small step; creative knowledge workers are able to make something of the idea.


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Finland
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Japan
Israel
Colombia
China
Taiwan
Brazil
Singapore
Knowledge Society Network

Knowledge Building in Singapore

“Ideas First” Research Site: Singapore Primary School

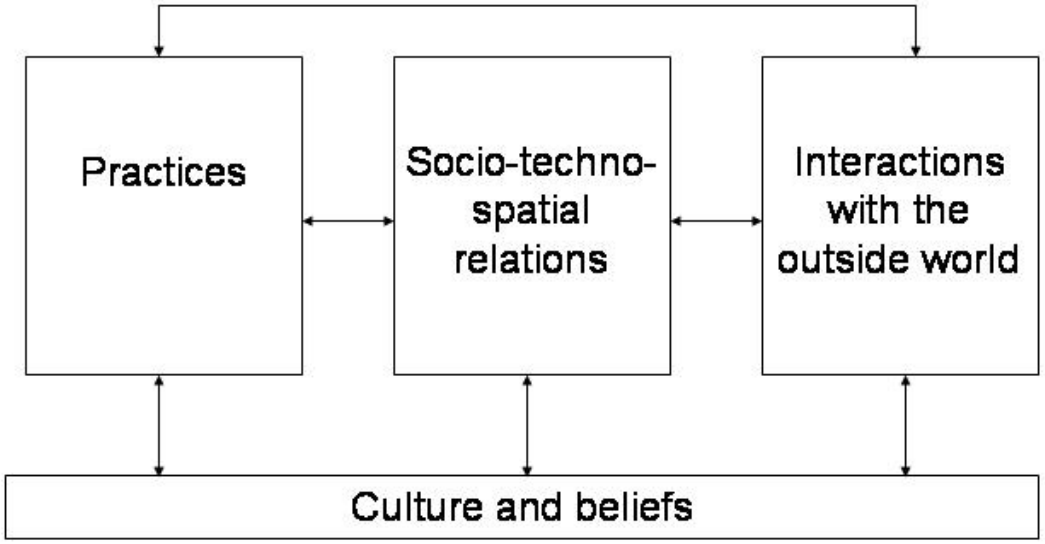
- Ideas First is a two-year science curriculum developed for Primary 3 and Primary 4 classrooms developed by researchers at the Singapore Learning Sciences Lab in collaboration with teachers at a primary school
- 11 teachers (6 P3 and 5 P4) using IDEAS First model since January 2006 (500+ students)
- Science Head-of-Department is a former P6 teacher who used Knowledge Forum in his own classes
- Because computers are not part of the classroom, we introduce physical transitioning mechanisms in the first 6 months of P3 as a way of supporting the development of a knowledge building culture. In this way, the everyday functioning of the classroom changes, rather than knowledge building being something “outside of class, down in the lab”

Researching Knowledge Building Communities in Classrooms

Can we build a theory of how to support teachers and students in making a transition from Knowledge Telling Classrooms (KTC) to KBC?

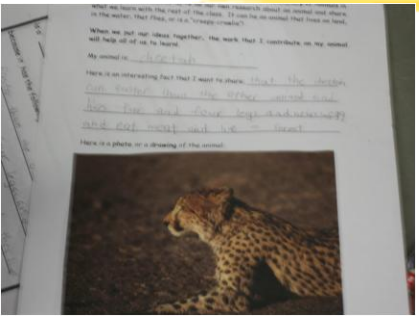
Our Research is Guided the Social Infrastructure Framework

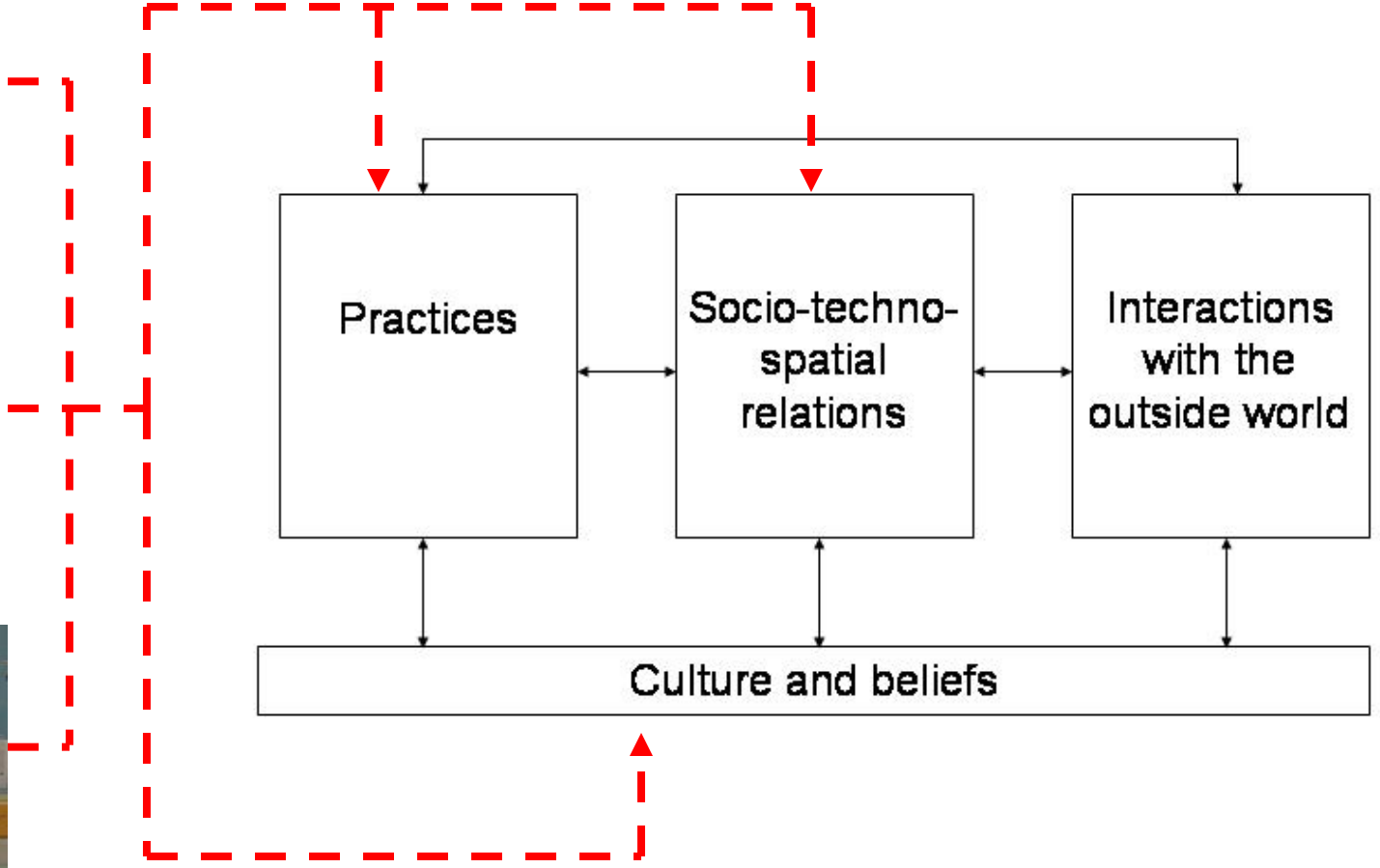
Social Infrastructure Framework



(Bielaczyc, 2006;
Bielaczyc & Collins, 2006)

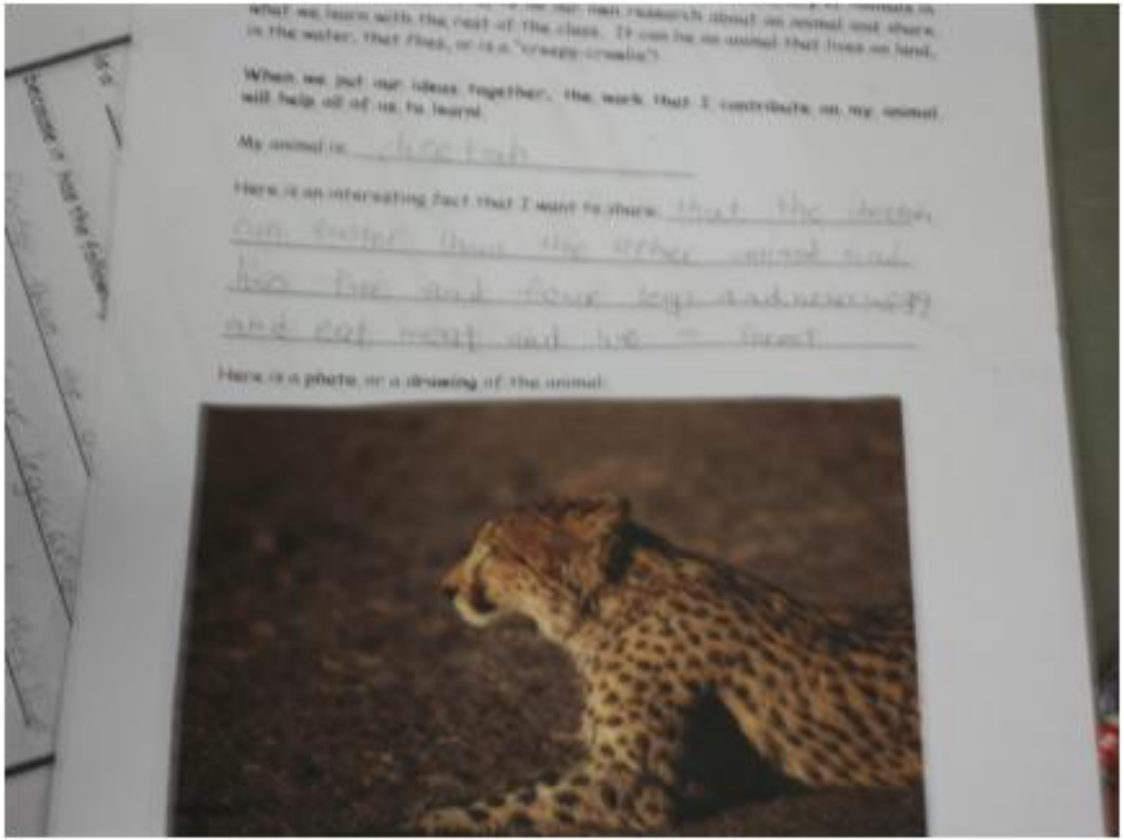
Shifting the Social Infrastructure of the Classroom





Shifting the Culture

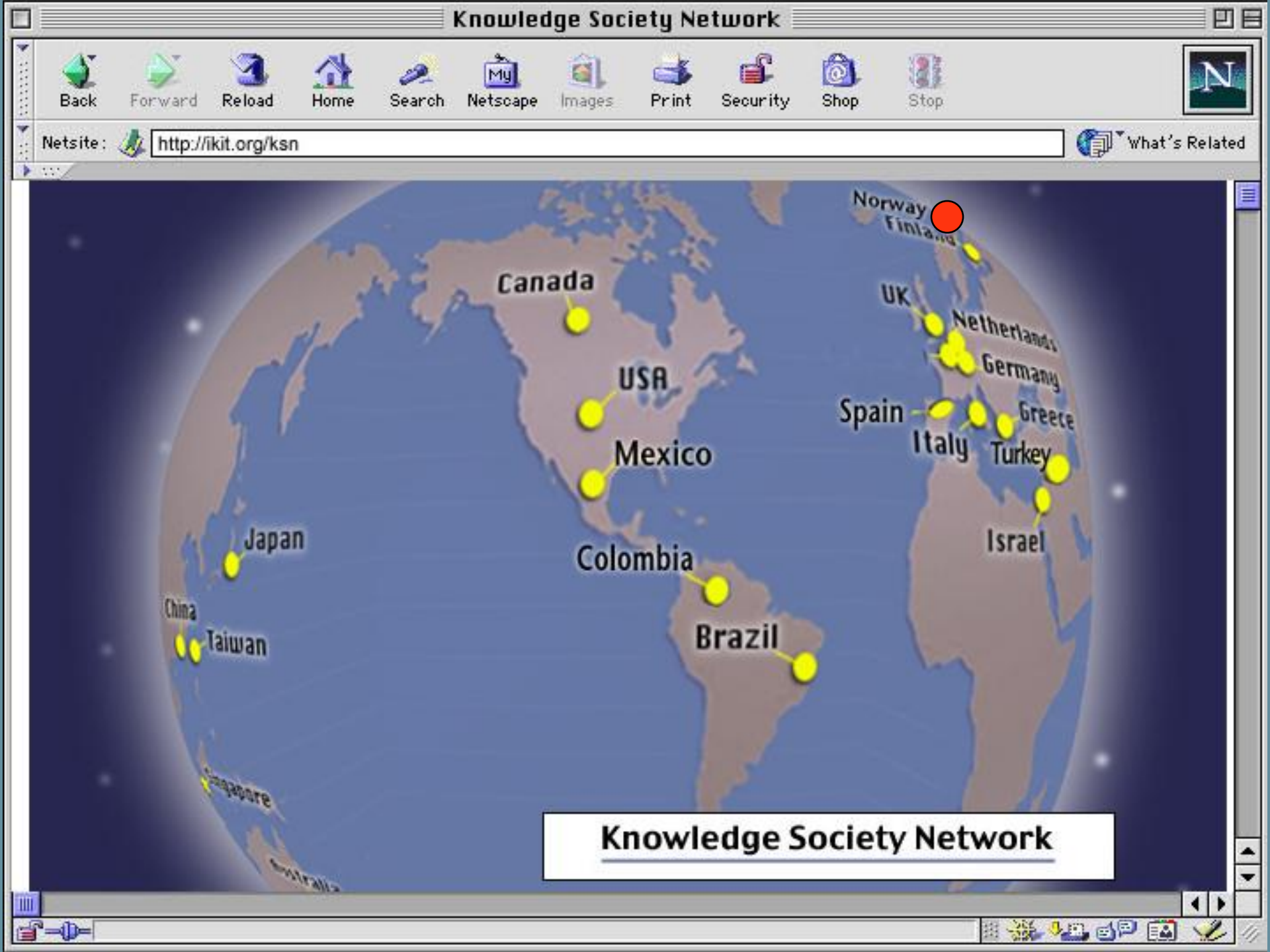
New Curriculum and Classroom Practices that Embody KB Principles



Ideas at the Center

Transitioning Mechanisms to Support Shifting the Culture

"Think Cards"

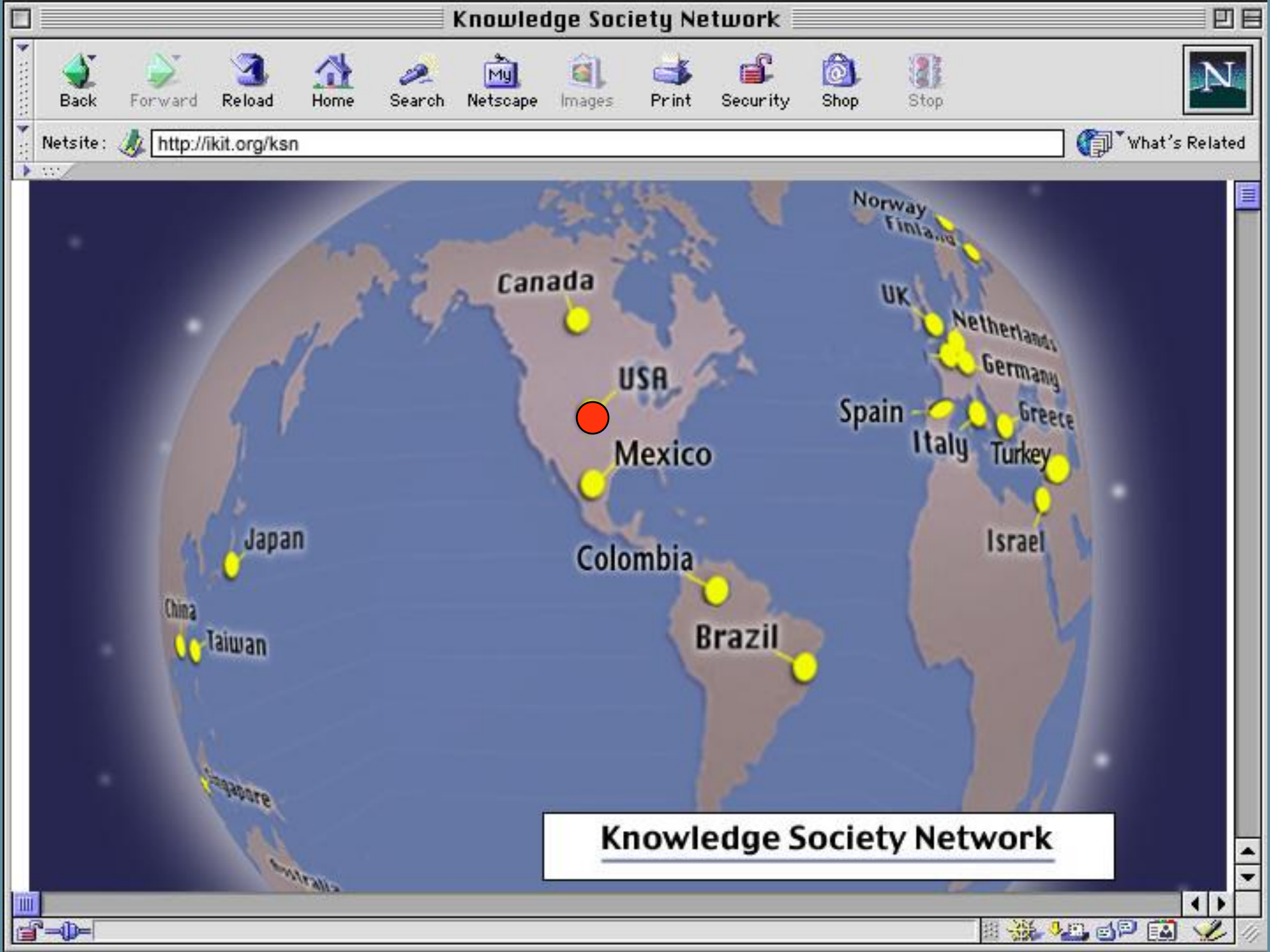

Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Finland
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Singapore
Knowledge Society Network

Knowledge Building Norway – status 2008

- Looking back:
  - Presenting Knowledge Building principles as part of large scale development programs since 2000.
  - One project Univ. of Oslo and Bergen + schools 2000-2003, using FLE.
  - Two lower secondary schools using KF as part of project based learning 2005-2006.

Initiatives at present

- Research project funded ny Research Council, title 'StudentResearch' (ElevForsk) (2007-2011
- Knowledge building has become a central part of a large scale development program for Norwegian schools called 'Learning Networks', combining 10 schools and one teacher training college to collaborate in networks. All together about 500 schools and 21 teacher training colleges have taken part in this until now.
- Several sub-projects:
  - For example, Upper Secondary schools are using KF and knowledge building principles across the curriculum, mainly science. Researchers from University of Oslo. Piloting 2007-08, full scale 2008-11.


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Japan
Israel
Colombia
China
Taiwan
Brazil
Knowledge Society Network

Literacy as a By-Product of Knowledge Building

Yanqing Sun, Jianwei Zhang, Marlene Scardamalia

Institute for Knowledge Innovation and Technology, OISE/UT

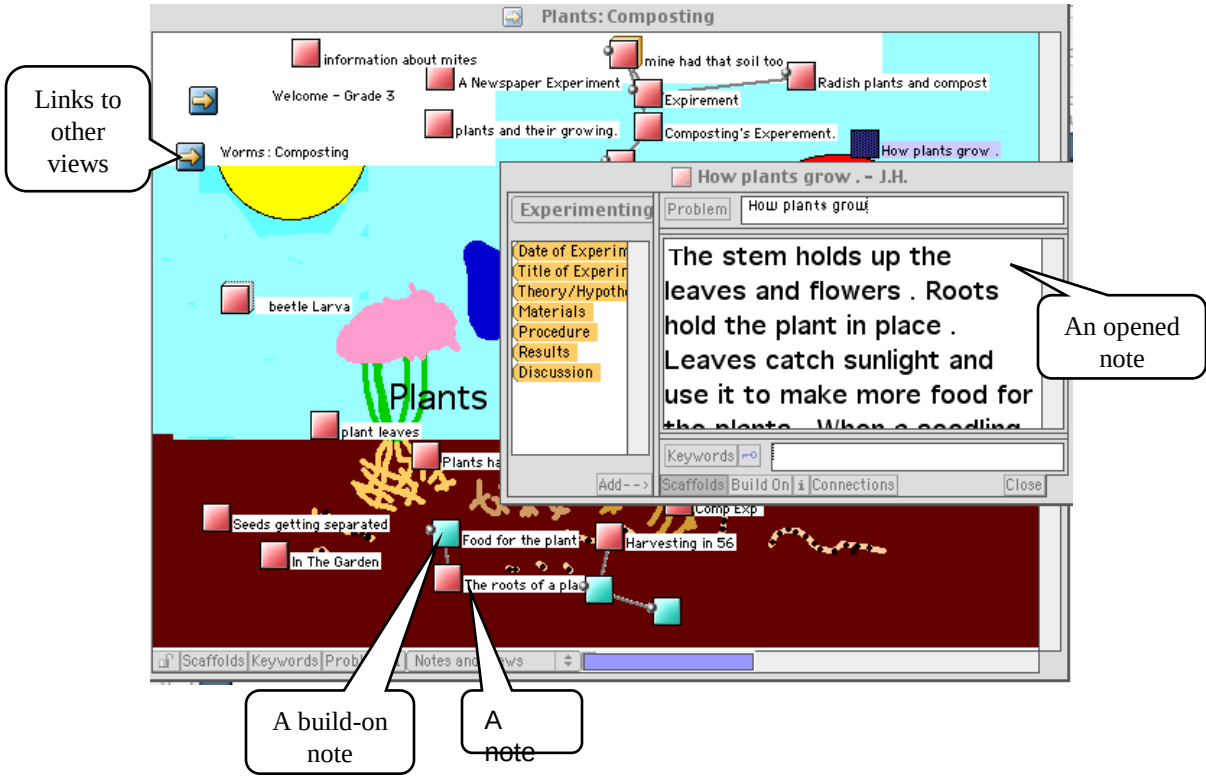
Rather than treating literacy as a prerequisite for knowledge work, we treat knowledge work as the preferred medium for developing the many literacies that support it.

Rationale

- Two challenges facing education:
  - To raise literacy of all students, close gaps;
  - To develop creative capacity
- Literacy as a complex social practice is best learned through dialogic communication and apprenticeship into literate discourse communities (Applebee, Langer, Nystrand, & Gamoran, 2003).
- Knowledge building: Engage students in creative knowledge work, with literacy as a by-product.

Contexts

- A class of 22 students in Grade 3 and then 4;
- KB/KF over two school years.



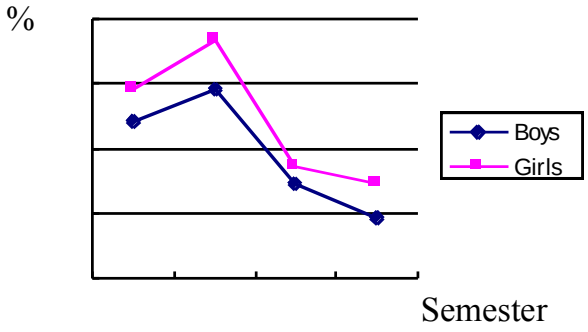


Figure 2. The percentage of the 1st 1000 words in each student's writing.

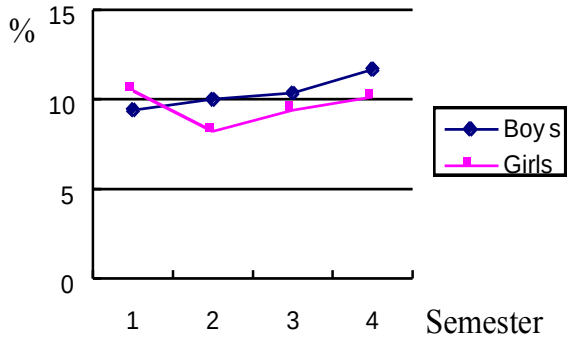


Figure 3. The percentage of the 2nd 1000 words in each student's writing.

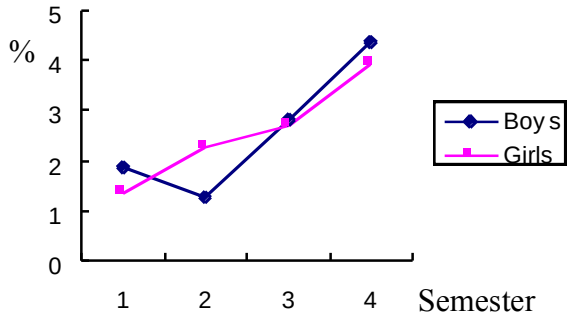


Figure 4. The percentage of academic words in each student's writing.

e.g., theory, evidence, hypothesis, approach, challenge, clarify, identify, expand, adjust, category, conclude

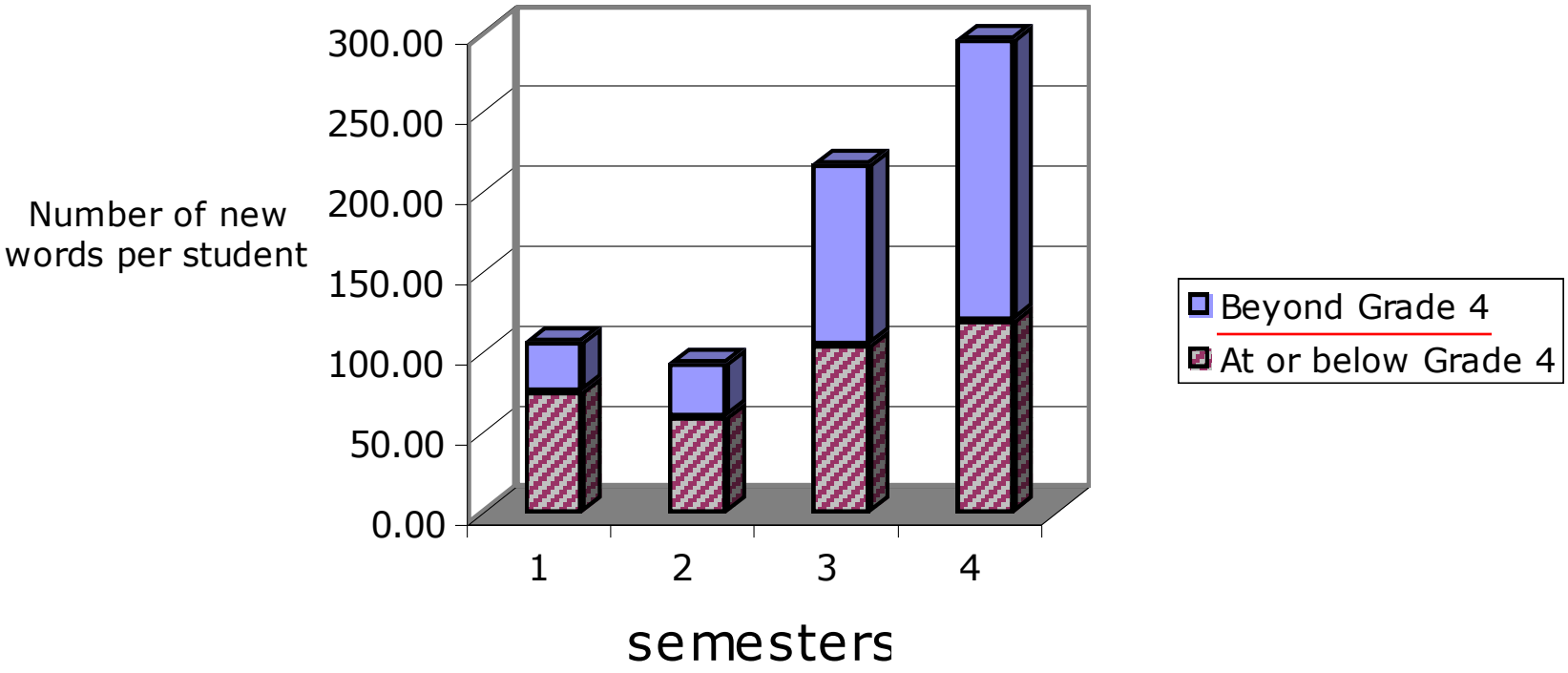

Number of new words per student
300.00
250.00
200.00
150.00
100.00
50.00
0.00
1
2
3
4
semesters
Beyond Grade 4
At or below Grade 4

Table 6. Correlations (Pearson r and p) between StudentsÕ Spelling and Vocabulary Scores on CTBS (Grade 4) and the Lexical Frequency Profiles of Their Online Discourse in the First and Second Half of Grade 4.

	% of 1st 1,000 words (1st half)	% of 2nd 1,000 words (1st half)	% of academic words (1st half)	% of 1st 1,000 words (2nd half)	% of 2nd 1,000 words (2nd half)	% of academic words (2nd half)	# of words beyond Grade 4 (1st half)	# of words beyond Grade 4 in (2nd half)
Spelling score	-.51* (.015)	.42 (.054)	.44* (.042)	-.45* (.034)	.43* (.047)	.23 (.307)	.38 (.086)	.43* (.049)
Vocabulary score	-.27 (.226)	.36 (.099)	.03 (.904)	-.52* (.012)	.38 (.083)	.01 (.979)	.40 (.063)	.58** (.005)

* p < .05; ** p < .01 (two-tailed).

Correlations (Pearson r and p) between StudentsÕ Literacy Scores on CTBS (Grade 4) and Their Participation in Online Knowledge Building Discourse over the Two School Years.

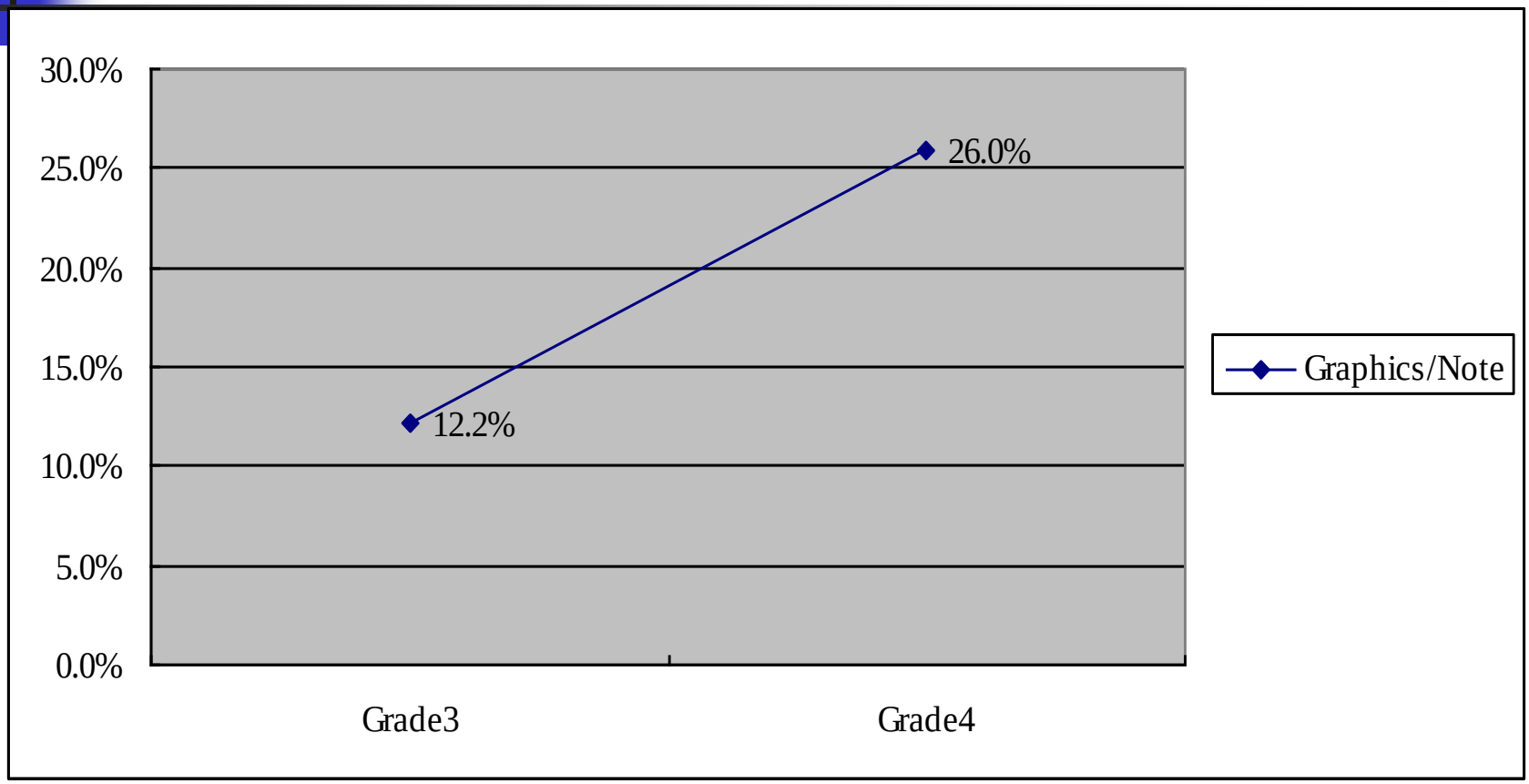
	% of notes read	# of notes written	# of words written
Spelling score	.39	.38	.49*
	(.074)	(.081)	(.021)
Vocabulary score	.41	.39	.53*
	(.056)	(.070)	(.012)
Reading score	.41	.36	.45*
	(.058)	(.097)	(.036)

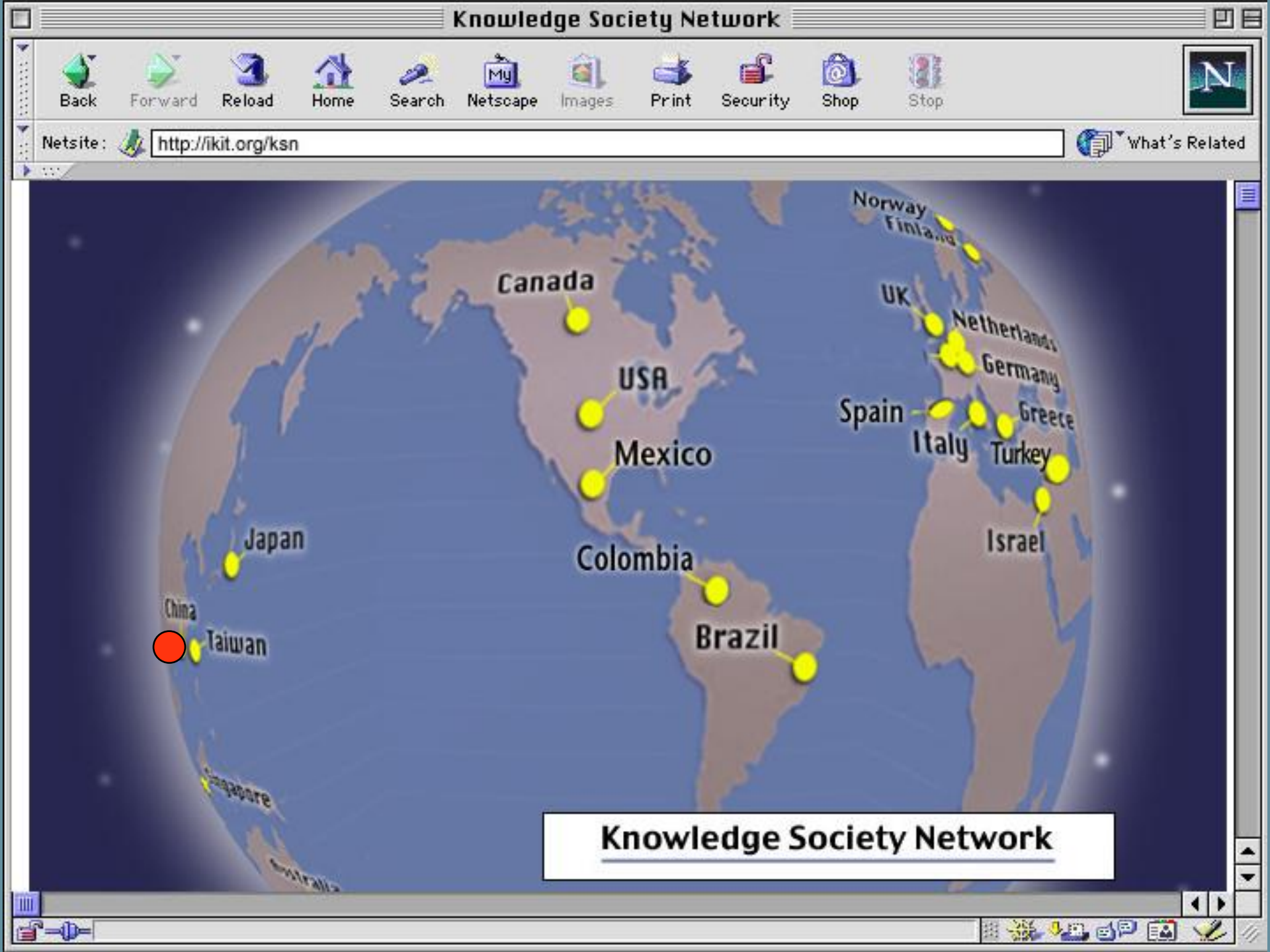
* P < .05 (two-tailed).

Graphical Literacy

Yongcheng Gan

% of graphics to total notes




Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Knowledge Society Network

Bringing Teachers to Summer Institute

- Establishing connections
- Planning for international collaboration

International Student Conference

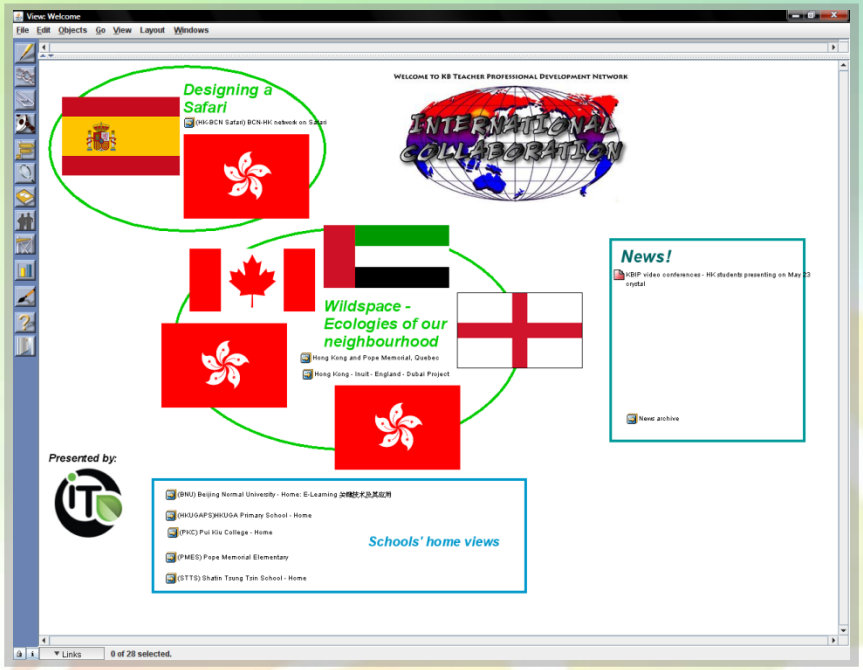
- Students as scholars
- Working with ideas in international knowledge building community

Tomorrow's Innovators @ Summer Institute

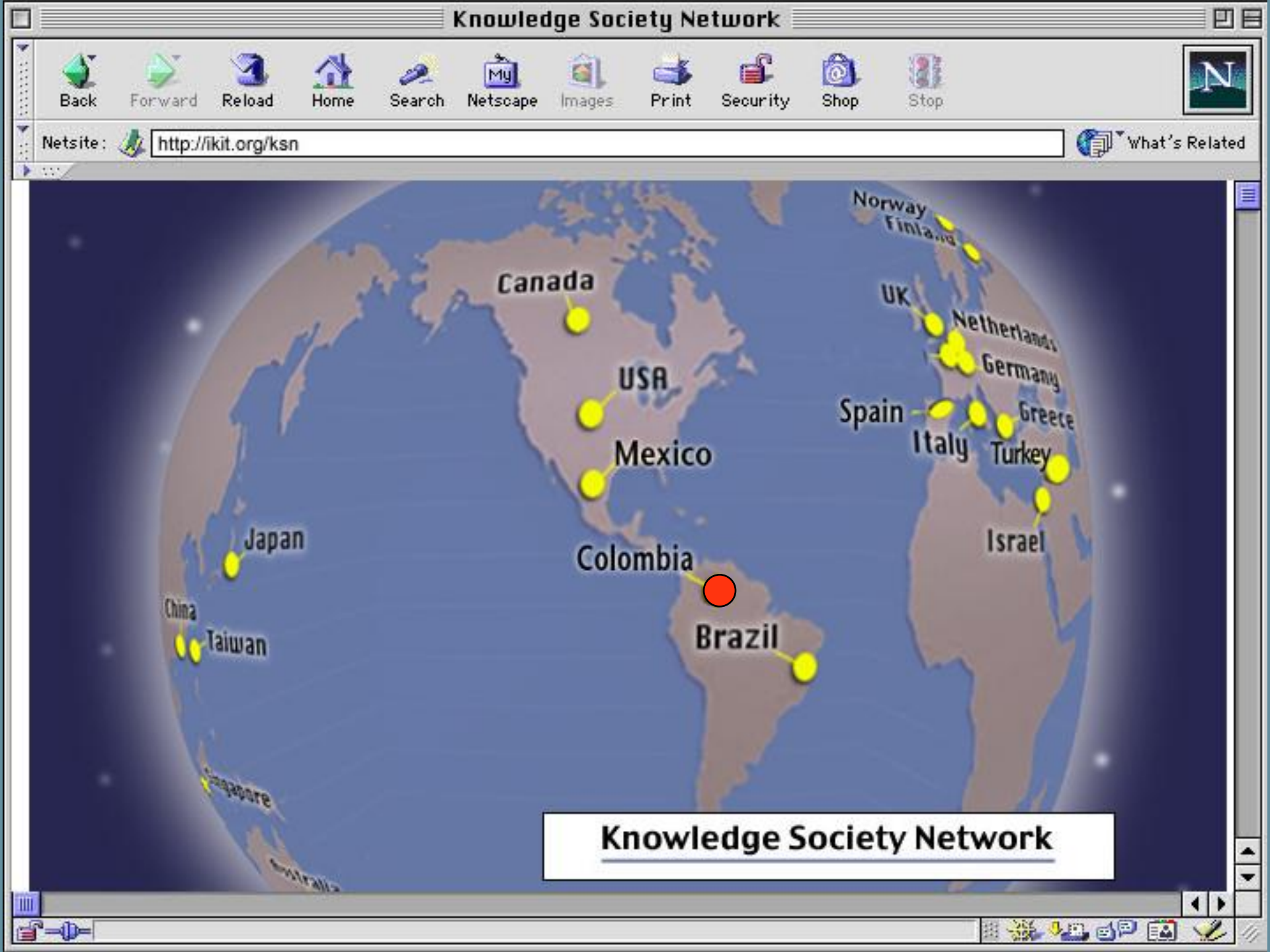
- Face-to-face chance for students to build knowledge with peers around the world

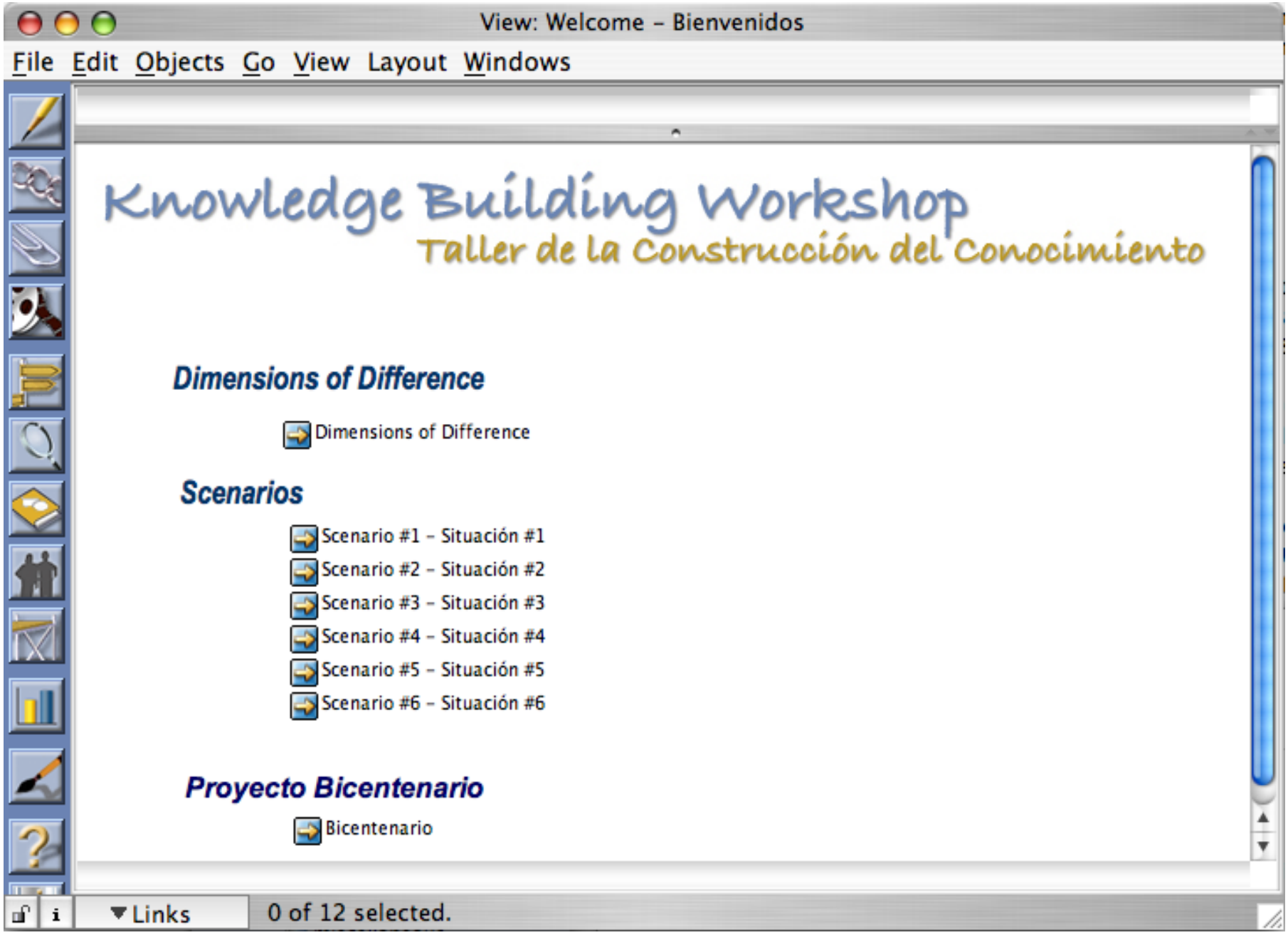
Teacher Professional Development

- Accumulate curriculum integration models
- Scalable and sustainable international teacher and school network

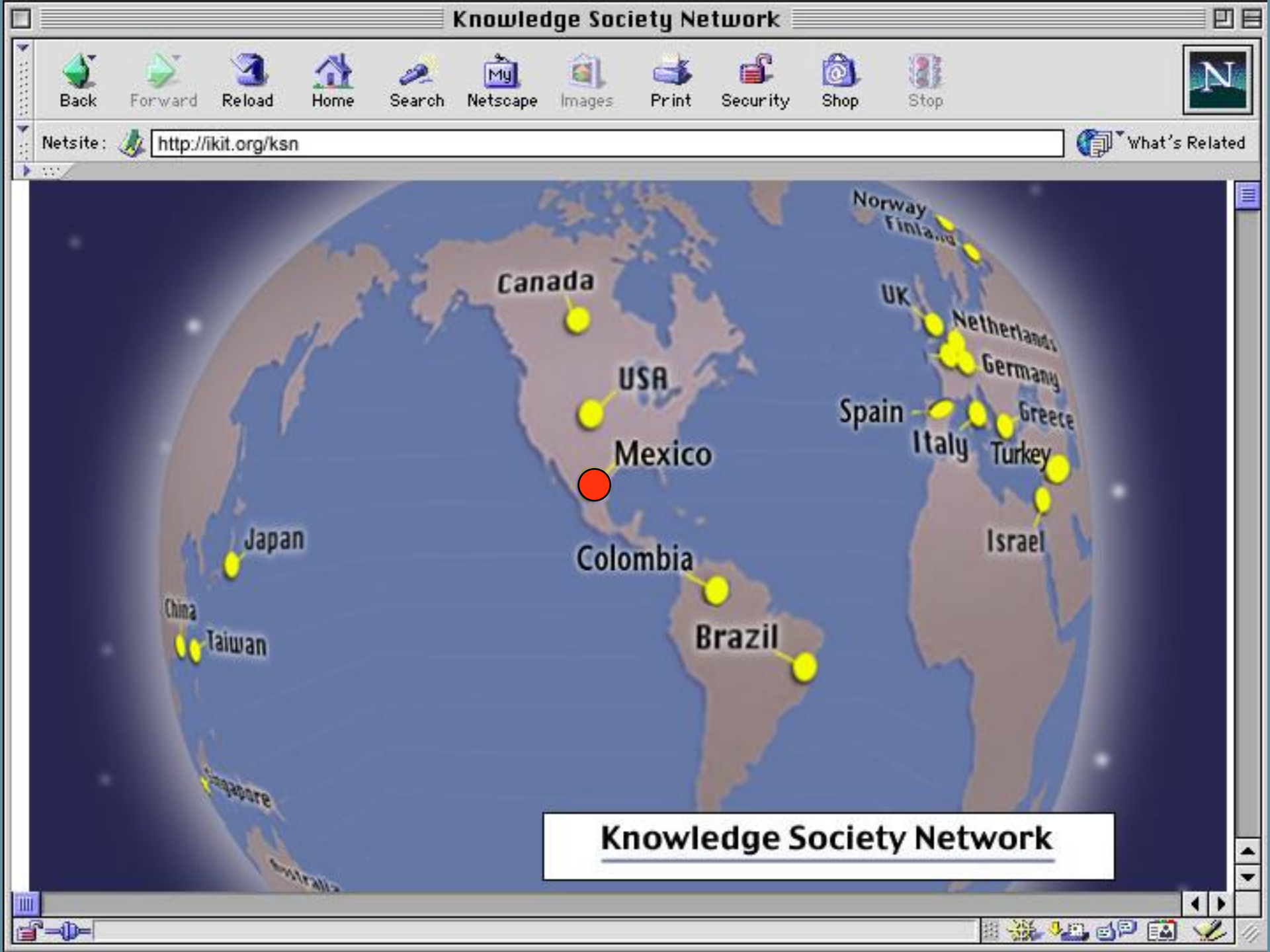

View: Welcome
File Edit Objects Go View Layout Windows
Designing a Safari
(HK/BCN Safari) BCN-HK network on Safari
WELCOME TO K8 TEACHER PROFESSIONAL DEVELOPMENT NETWORK
INTERNATIONAL COLLABORATION
Wildspace - Ecologies of our neighbourhood
Hong Kong and Pope Memorial, Quebec
Hong Kong - Inuit - England - Dubai Project
News!
KBIP video conferences - HK students presenting on May 23 crystal
News archive
Presented by:
(BNU) Beijing Normal University - Home: E-Learning
(HKUGAPS)HKUGA Primary School - Home
(PKC) Pui Kiu College - Home
(PMES) Pope Memorial Elementary
(STTS) Shatin Tsung Tsin School - Home
Schools' home views
Links
0 of 28 selected.


Merry Christmas


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Finland
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Singapore
Knowledge Society Network


View: Welcome – Bienvenidos
File Edit Objects Go View Layout Windows
Knowledge Building Workshop
Taller de la Construcción del Conocimiento
Dimensions of Difference
Dimensions of Difference
Scenarios
Scenario #1 – Situación #1
Scenario #2 – Situación #2
Scenario #3 – Situación #3
Scenario #4 – Situación #4
Scenario #5 – Situación #5
Scenario #6 – Situación #6
Proyecto Bicentenario
Bicentenario
Links
0 of 12 selected.

Shallow Constructivism	Rating/ Example	Deep Constructivism	Rating/ Example
Collaborative Learning --> Community Knowledge			
COLLABORATIVE LEARNING		COMMUNITY KNOWLEDGE; COLLECTIVE RESPONSIBILITY	
Differential Participation-- > Equitable Participation in Knowledge Work			
INDIVIDUAL DIFFERENCES		DEMOCRATIZING KNOWLEDGE	
Authenticity: Teacher--> Student Point of View			
MEANINGFUL ACTIVITIES		REAL IDEAS, AUTHENTIC PROBLEMS	
Canonical Knowledge --> New Knowledge			
CURRICULUM		IDEA DIVERSITY	
Belief Mode/Right-Wrong--> Design Mode/ Continual Improvement			
INQUIRY: QUESTION-ANSWER		IMPROVABLE IDEAS	
Comprehending/Finding Answers--> Advancing the State of Knowledge			
UNDERSTANDING GIVEN INFORMATION		CONSTRUCTIVE USES OF AUTHORITATIVE SOURCES	
Self-Regulation/Student Choice --> Taking Charge at the Highest Levels			
STUDENT INPUT /CHOICE		EPISTEMIC AGENCY	
Truth --> Ever-Advancing Understanding			
DISCIPLINED DISCOURSE		KNOWLEDGE BUILDING DISCOURSE	
Best Practice --> Beyond Best Practice			
CONSENSUS		RISE ABOVE	
Guided Discovery --> Knowledge Creation			
HIGHER-ORDER THINKING		PERVASIVE KNOWLEDGE BUILDING	
Externally Defined Benchmarks --> Self Organization			
STANDARDS		CONCURRENT, EMBEDDED AND TRANSFORMATIVE ASSESSMENT	
Local Community --> Global Community			
HIGH-PERFORMING CLASSES		SYMMETRIC KNOWLEDGE ADVANCEMENT	


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Japan
Israel
Colombia
China
Taiwan
Brazil
Knowledge Society Network


Ruta de
Evacuación

Baccalaureate in Knowledge Building: A year of principle-based design with professors and students, 2007-2008

Issues Arising:

--all subjects? --all professors ?

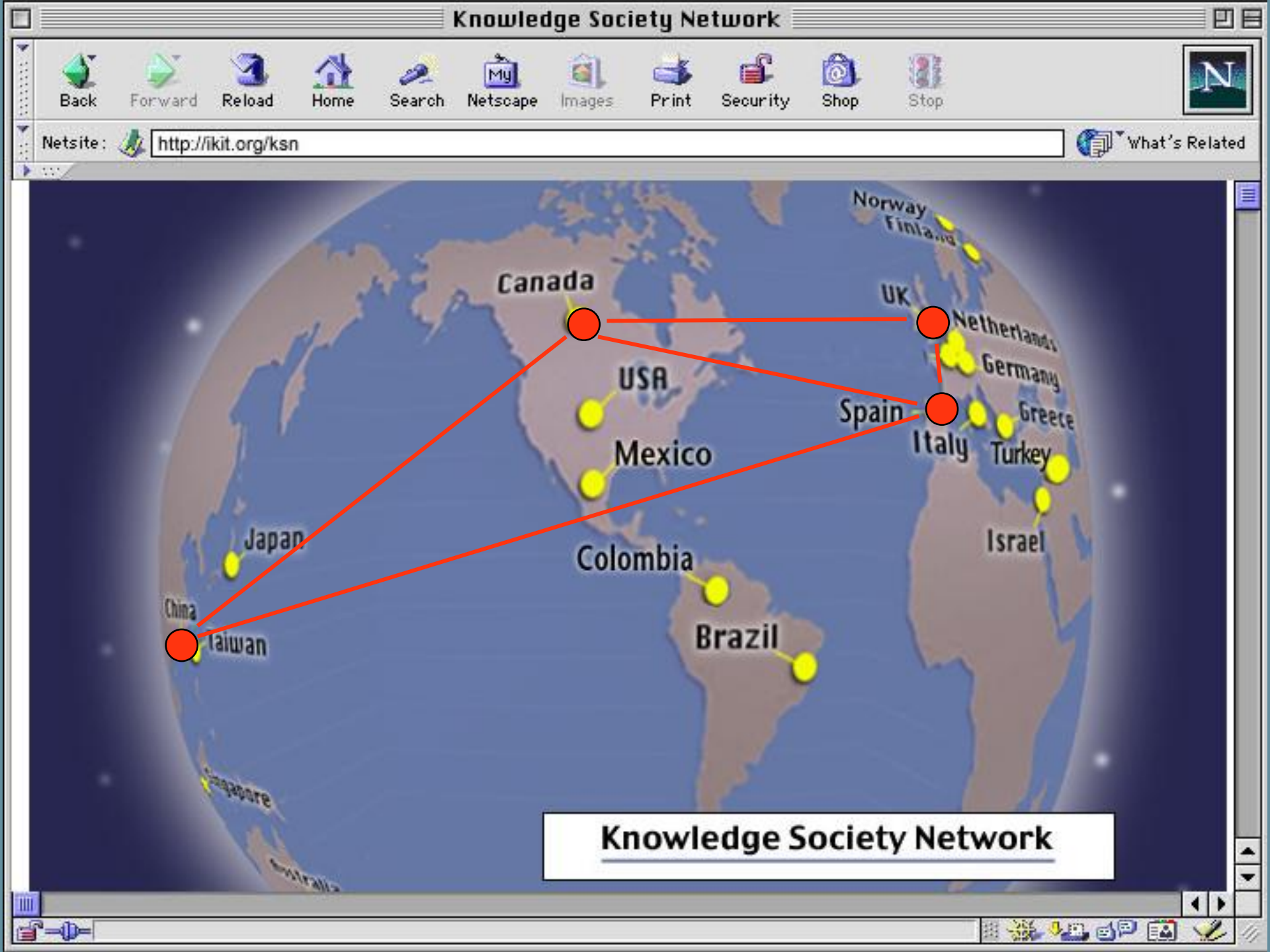
--saturation on parallel discussions across courses taken simultaneously?

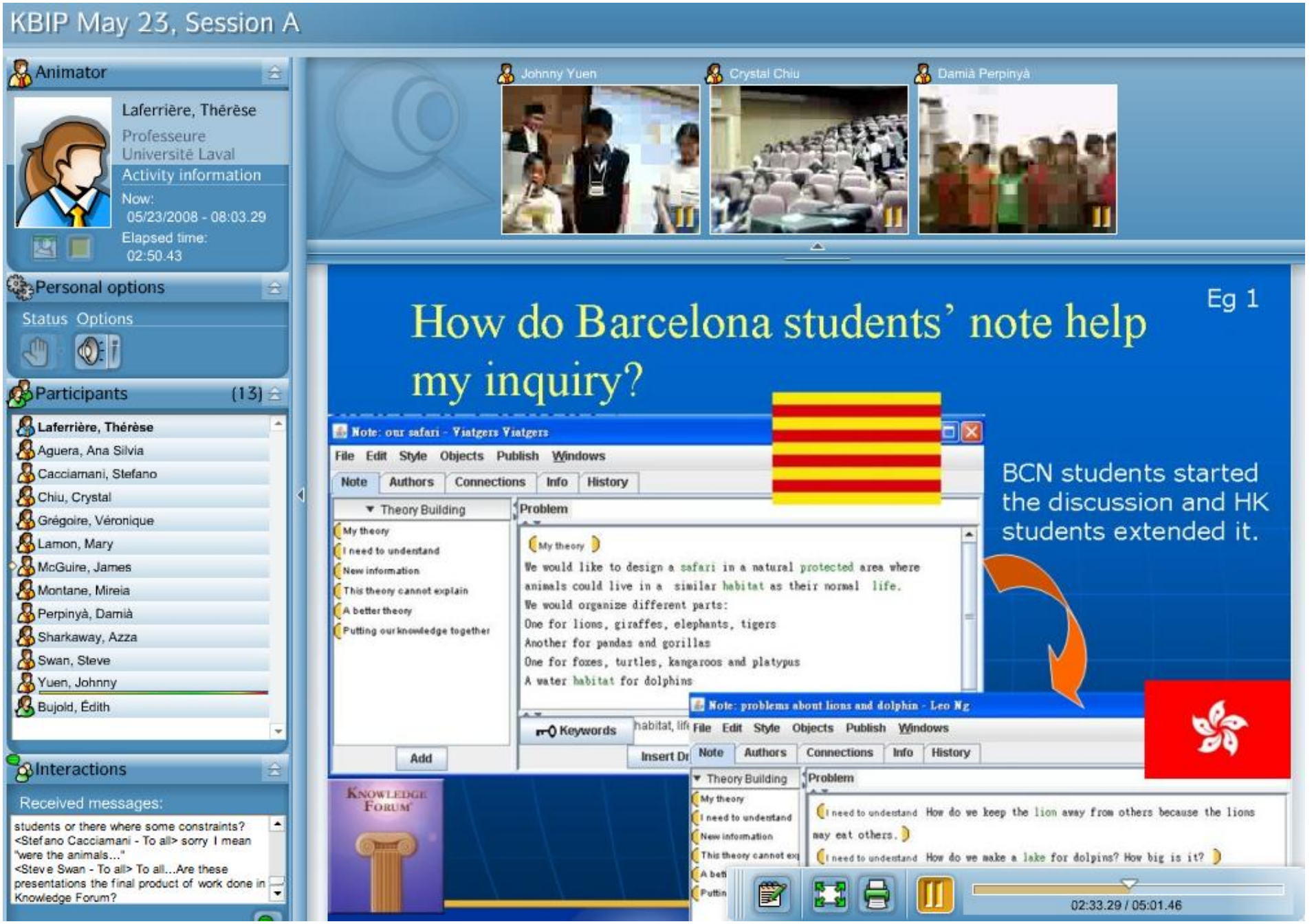
--if innovation must be "part and parcel" of the process, how is it possible to innovate in several subjects simultaneously?

Context:

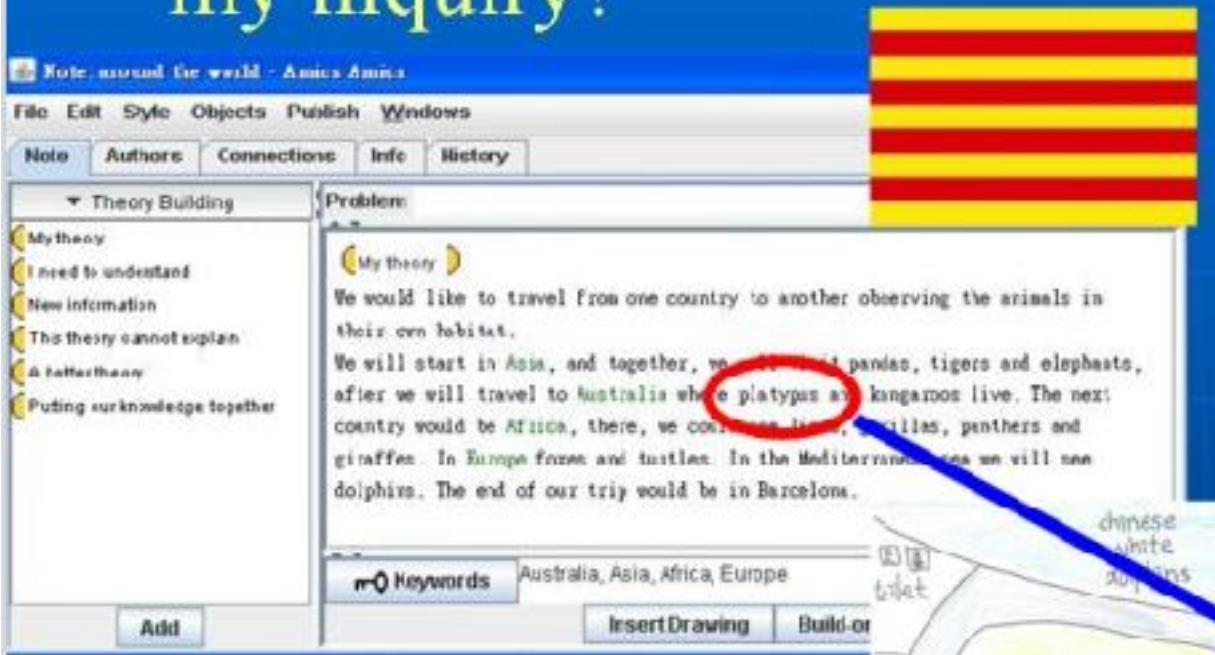
240 students in Puebla, 60 in Tlaxcala and 90 in Veracruz

Knowledge Building possibly introduced into the system of Jesuits schools in Mexico with near 12 000 students.

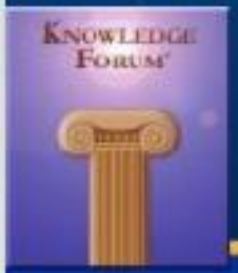

Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Knowledge Society Network


KBIP May 23, Session A
Animator
Laferrière, Thérèse
Professeure
Université Laval
Activity information
Now:
05/23/2008 - 08:03.29
Elapsed time:
02:50.43
Personal options
Status Options
Participants (13)
Laferrière, Thérèse
Aguera, Ana Silvia
Cacciamani, Stefano
Chiu, Crystal
Grégoire, Véronique
Lamon, Mary
McGuire, James
Montane, Mireia
Perpinyà, Damià
Sharkaway, Azza
Swan, Steve
Yuen, Johnny
Bujold, Édith
Interactions
Received messages:
students or there where some constraints?
<Stefano Cacciamani - To all> sorry I mean "were the animals..."
<Steve Swan - To all> To all...Are these presentations the final product of work done in Knowledge Forum?
Johnny Yuen
Crystal Chiu
Damià Perpinyà
Eg 1
How do Barcelona students' note help my inquiry?
Note: our safari - Viatgers Viatgers
File Edit Style Objects Publish Windows
Note Authors Connections Info History
Theory Building
My theory
I need to understand
New information
This theory cannot explain
A better theory
Putting our knowledge together
Add
Problem
My theory
We would like to design a safari in a natural protected area where animals could live in a similar habitat as their normal life.
We would organize different parts:
One for lions, giraffes, elephants, tigers
Another for pandas and gorillas
One for foxes, turtles, kangaroos and platypus
A water habitat for dolphins
Keywords
BCN students started the discussion and HK students extended it.
Note: problems about lions and dolphin - Leo Ng
File Edit Style Objects Publish Windows
Note Authors Connections Info History
Theory Building
My theory
I need to understand
New information
Problem
I need to understand How do we keep the lion away from others because the lions may eat others.
I need to understand How do we make a lake for dolpins? How big is it?
Knowledge Forum
02:33.29 / 05:01.46

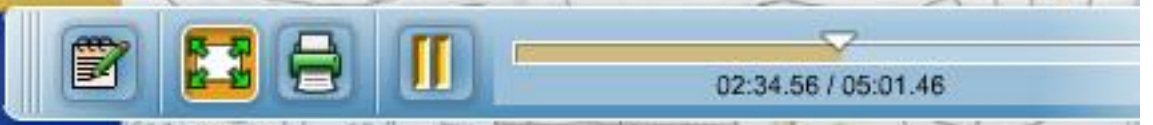
How do Barcelona students' note help my inquiry?

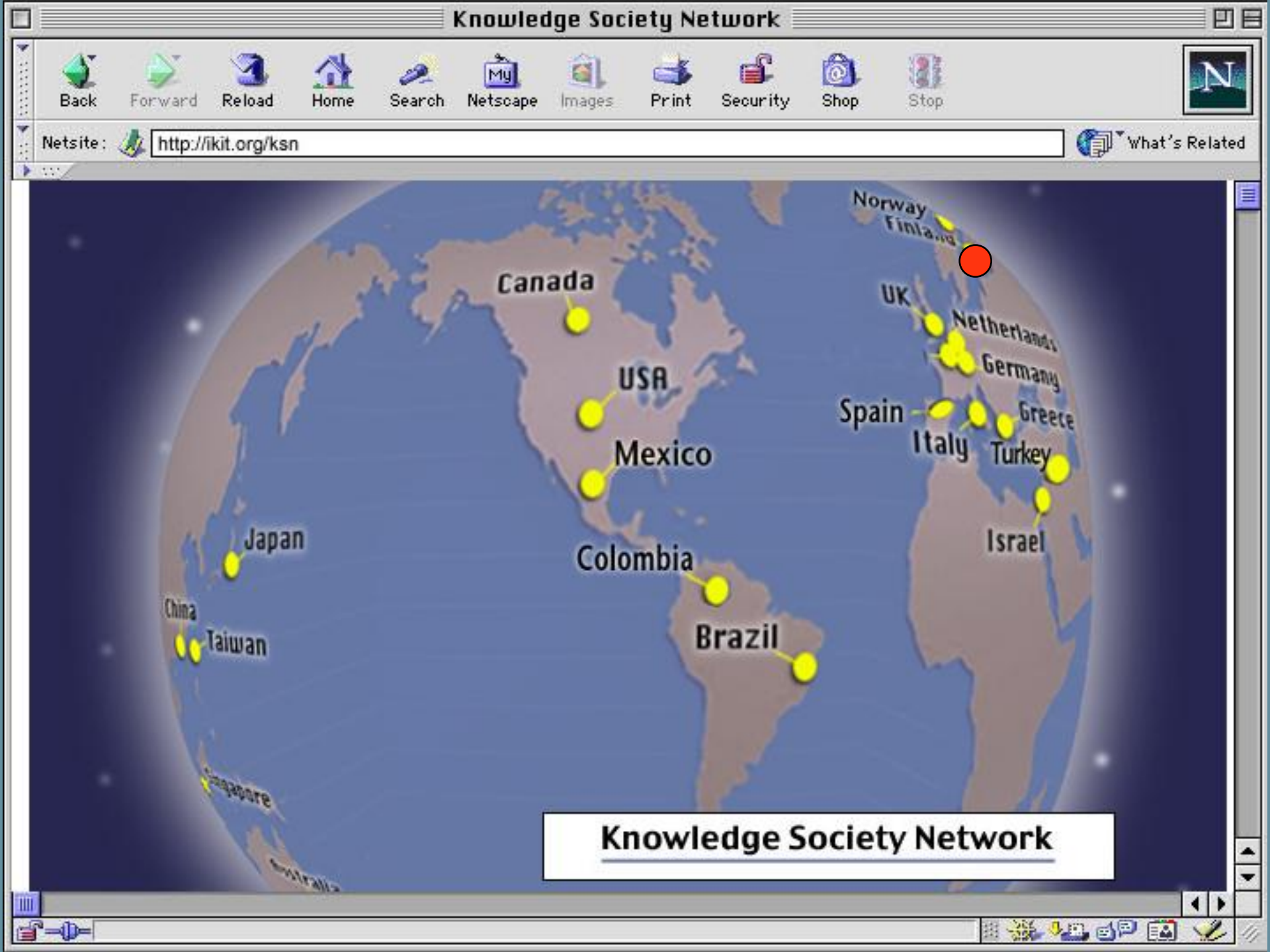


HK students didn't know about *platypus*.
BCN students stimulated HK students to find about *platypus* in internet.



Sharing of Hong Kong students




Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite :
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Knowledge Society Network

Information Society Technologies

KP-Lab

KNOWLEDGE PRACTICES LABORATORY

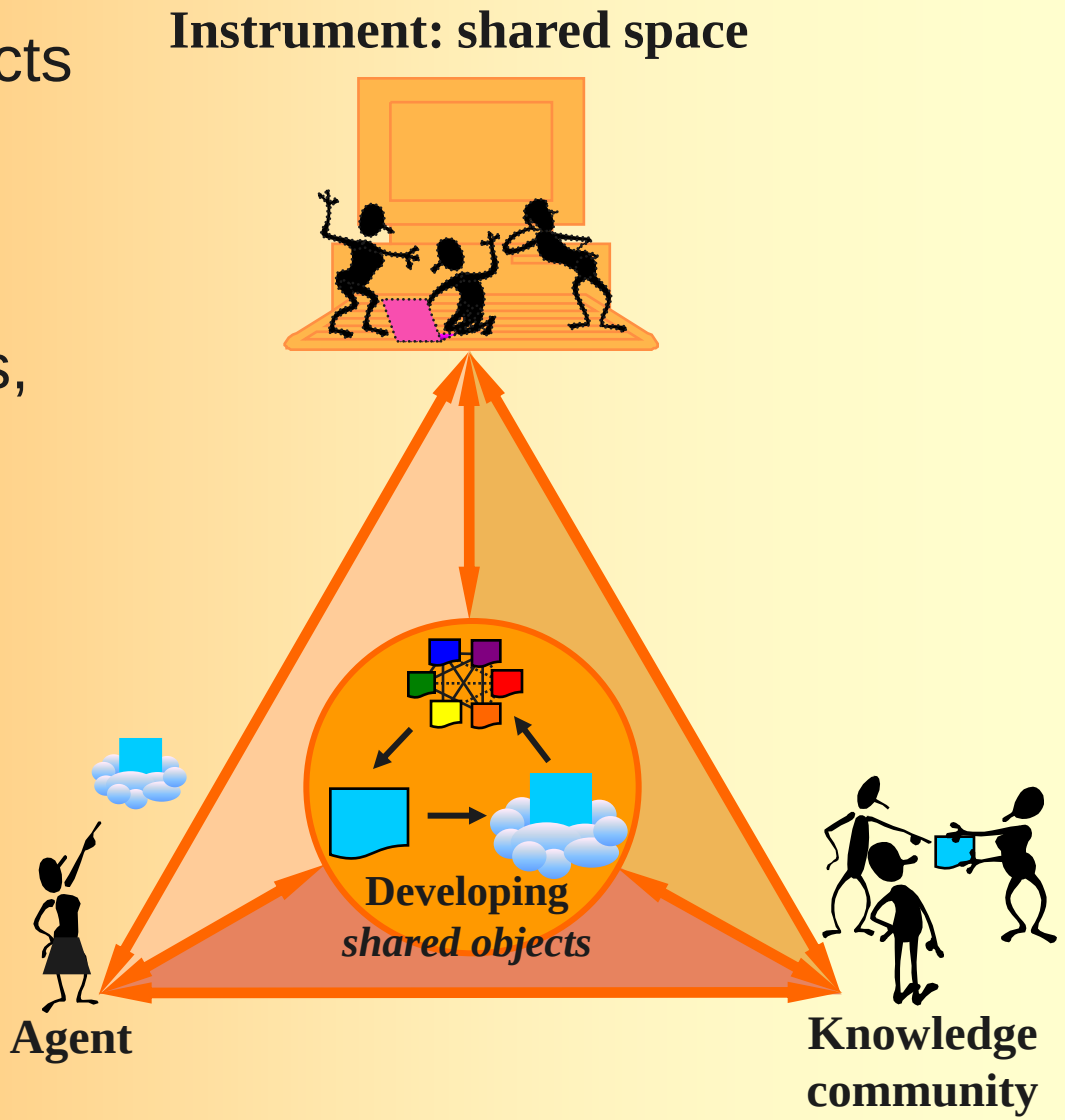
(2006-2011)

EC's Information Society Technologies program, Technology-Enhanced Learning

www.kp-lab.org

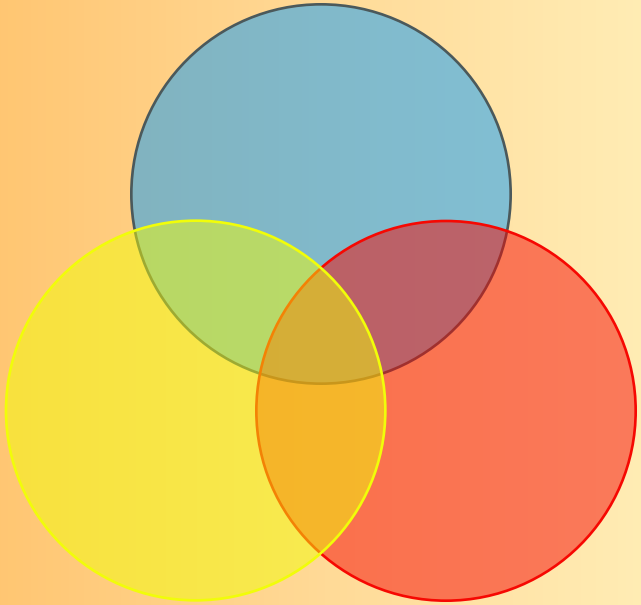
Knowledge-creation perspective: Trialogic Model

- Developing shared objects (epistemic artefacts) in long-term processes
- Ideas (questions, theories), plans, designs, products, or practices being reflected on
- Extended, sustained process
- Rely on technology-mediation
- Trialogue between individual, community, and objects



Elements of KP-Lab project

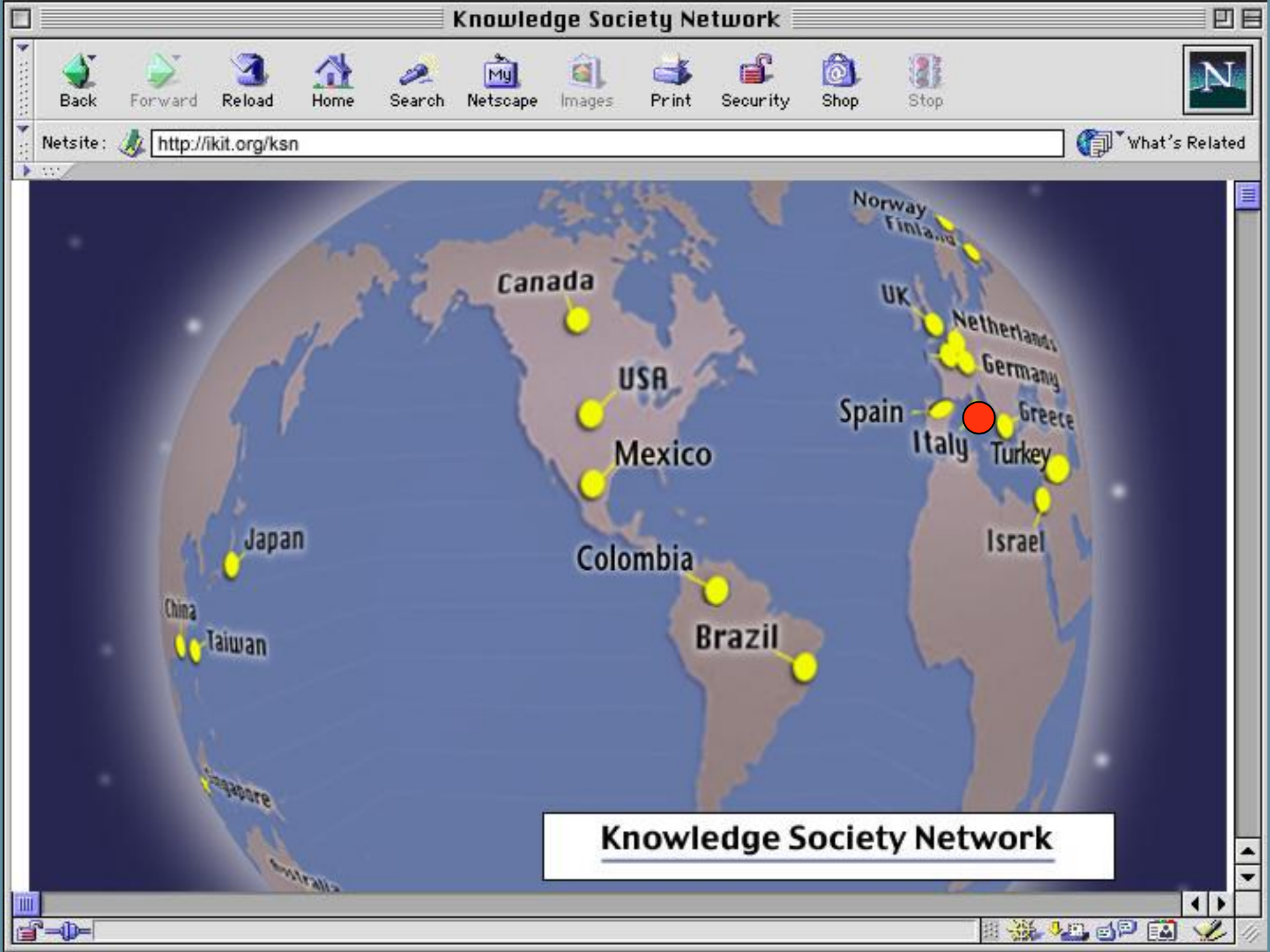
Technology development



Trialogical ”theory”

Knowledge practices

- *Coherence of KP-Lab requires integration of these three fundamental aspects.*
- *It is a disturbance if only one or two of them are addressed in epistemic artifacts created in the KP-Lab project*


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Knowledge Society Network

Università degli Studi di Padova

Facolta' di Scienze della Formazione

Dipartimento di Scienze dell'Educazione

Psychological, pedagogical and sociological models for learning and assessment in virtual communities of practice

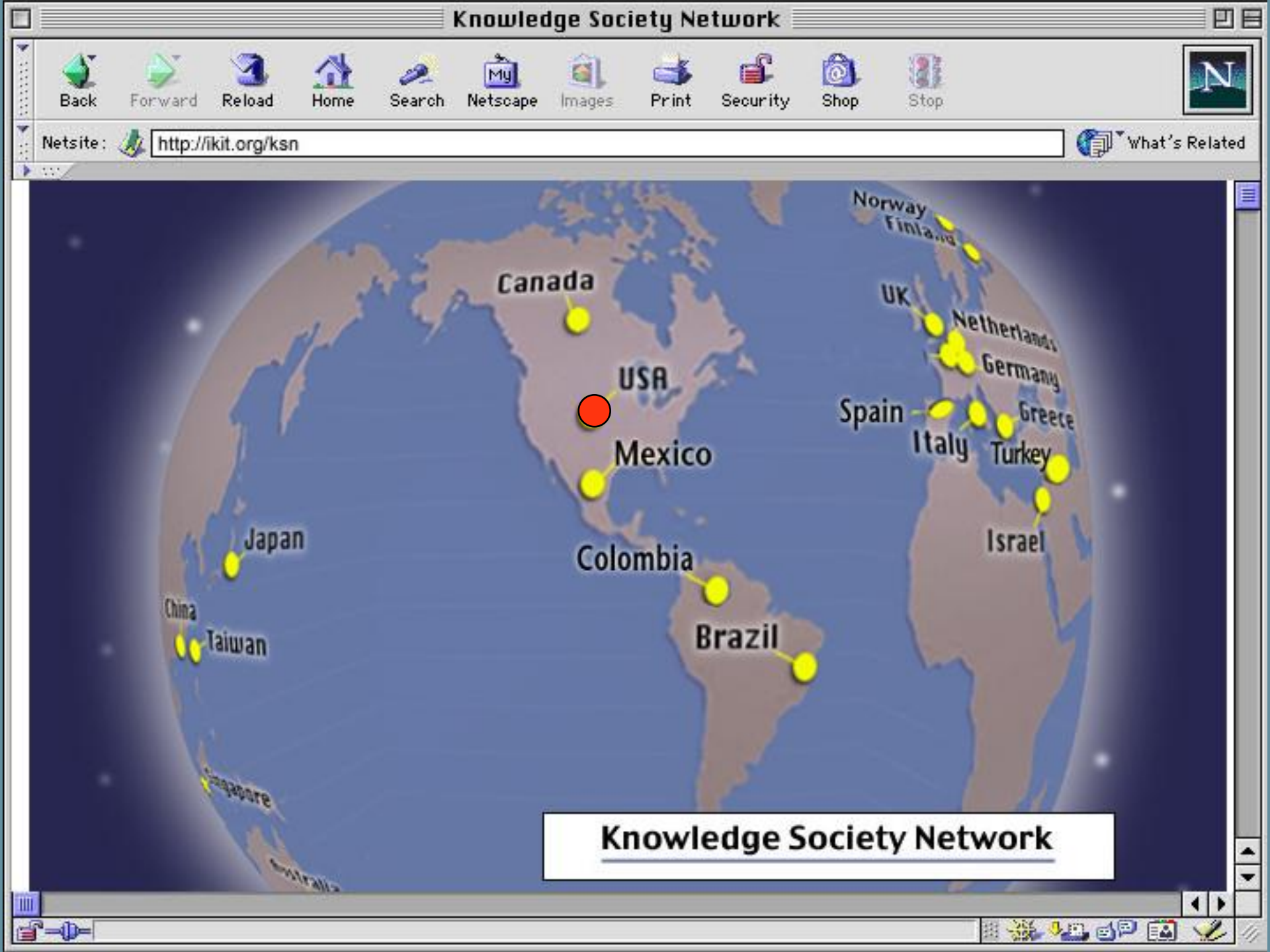
6-7 marzo 2008
Aula Nievo – Cortile Antico
Palazzo del Bo
Via VIII Febbraio, 2 Padova

Aim

The ...lty of
Edu... s, IT
technologists of e-learning and health care services workers, has more than one

English Italian

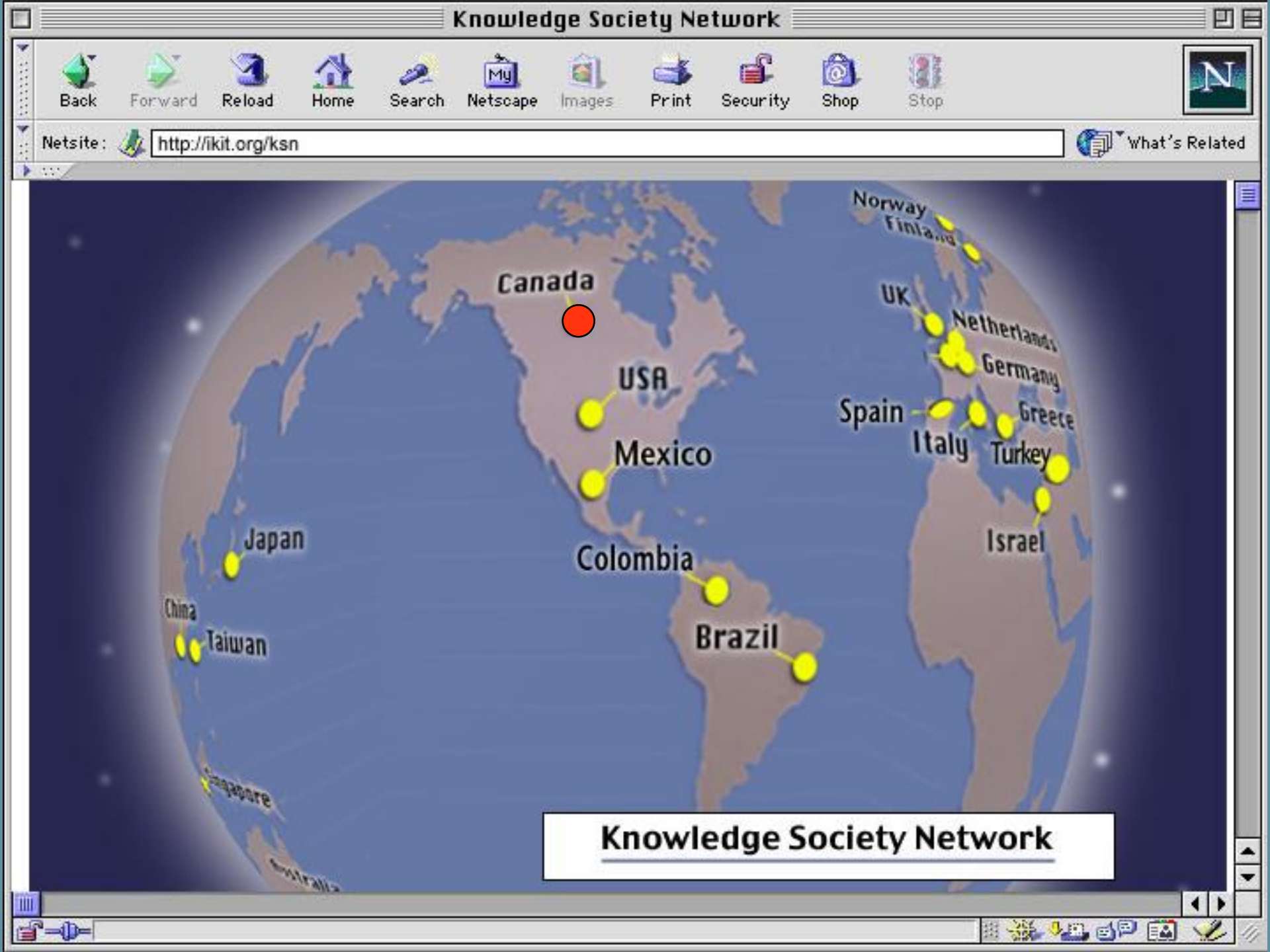
congress


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Canada
USA
Mexico
Colombia
Brazil
Japan
China
Taiwan
Norway
UK
Netherlands
Germany
Spain
Italy
Greece
Turkey
Israel
Knowledge Society Network

Knowledge Building Communities in Louisville

- District has selected three elementary schools, with Knowledge Building integral to the curriculum
- Knowledge Building Summer School in Louisville in July
- Focus on the history
- The last five decades. Students select a decade and build knowledge through a lens of a simple question:

"What effect(s) has this Decade had on life today"

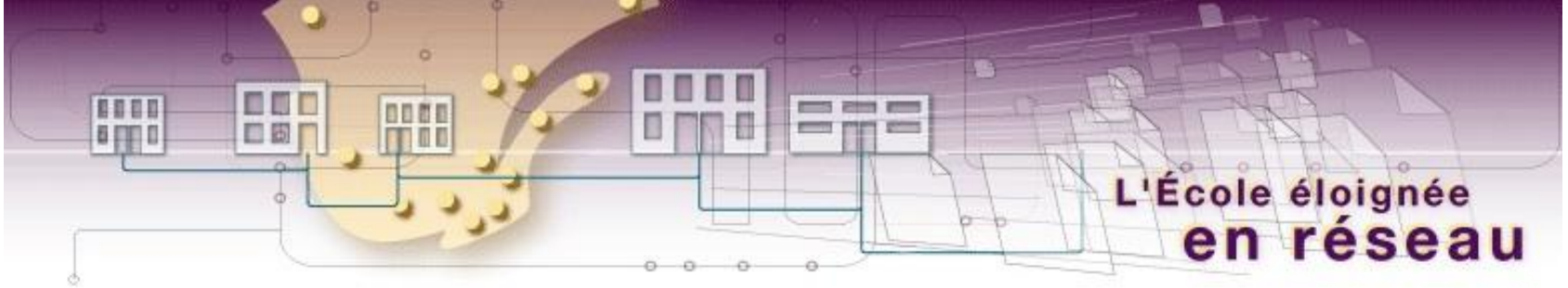

Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Canada
USA
Mexico
Colombia
Brazil
Japan
China
Taiwan
Norway
UK
Netherlands
Germany
Spain
Italy
Greece
Turkey
Israel
Knowledge Society Network

Quebec, Canada

- The learning environment of elementary school learners in remote rural areas is enriched by the use of collaborative technologies. When students engage in inquiry and knowledge building with students from other schools, learning outcomes include heightened motivation (in progress), 4th graders better results at the PIRLS, and a higher presence of explanation (Bordage, 2007) in students' written discourse.

  - Participating teachers and other actors of the educational system are to be credited for their openness in engaging students in creative thinking.

  - Exemplars of use of Knowledge Forum with a focus on real problems and authentic questioning are provided at the following url: http://www.eer.qc.ca/projets/sciences.html



Knowledge Forum
iVisit
Pour nous joindre
ÉÉR - Site principal

Premier cycle

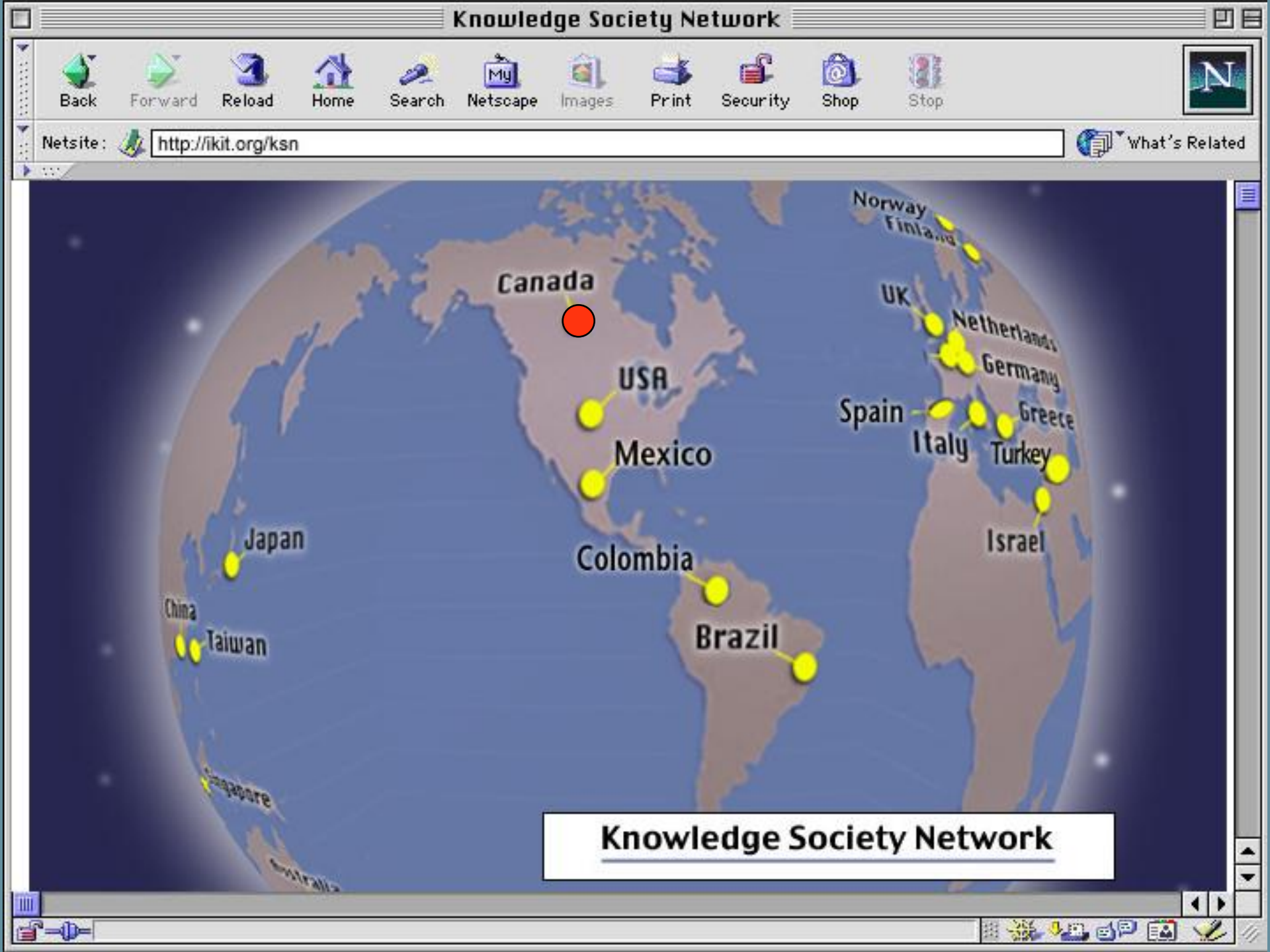
- Projet sur le système solaire
- Les insectes
- La neige

Deuxième cycle

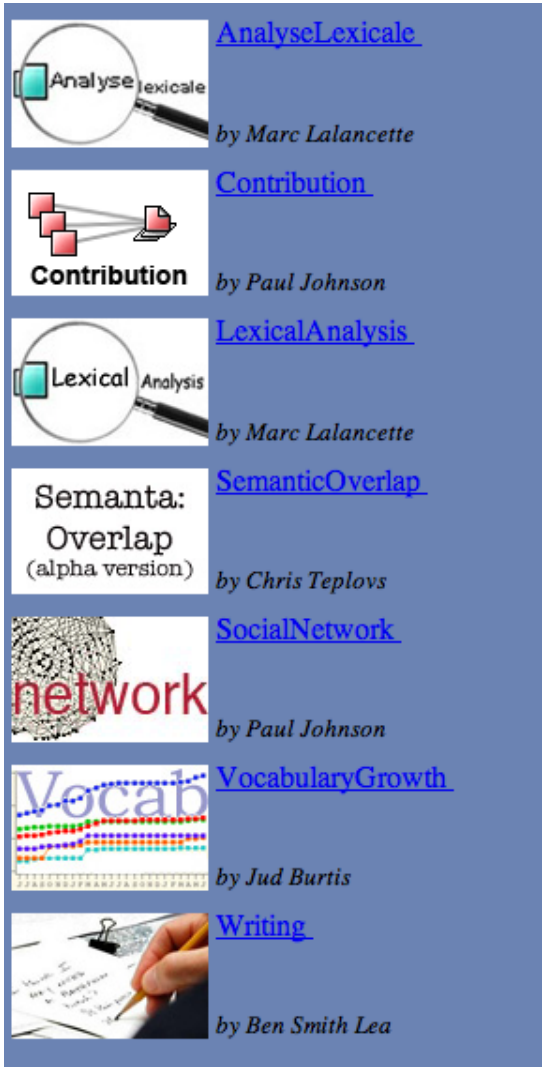
- Bibi la bille
- Coco le héros

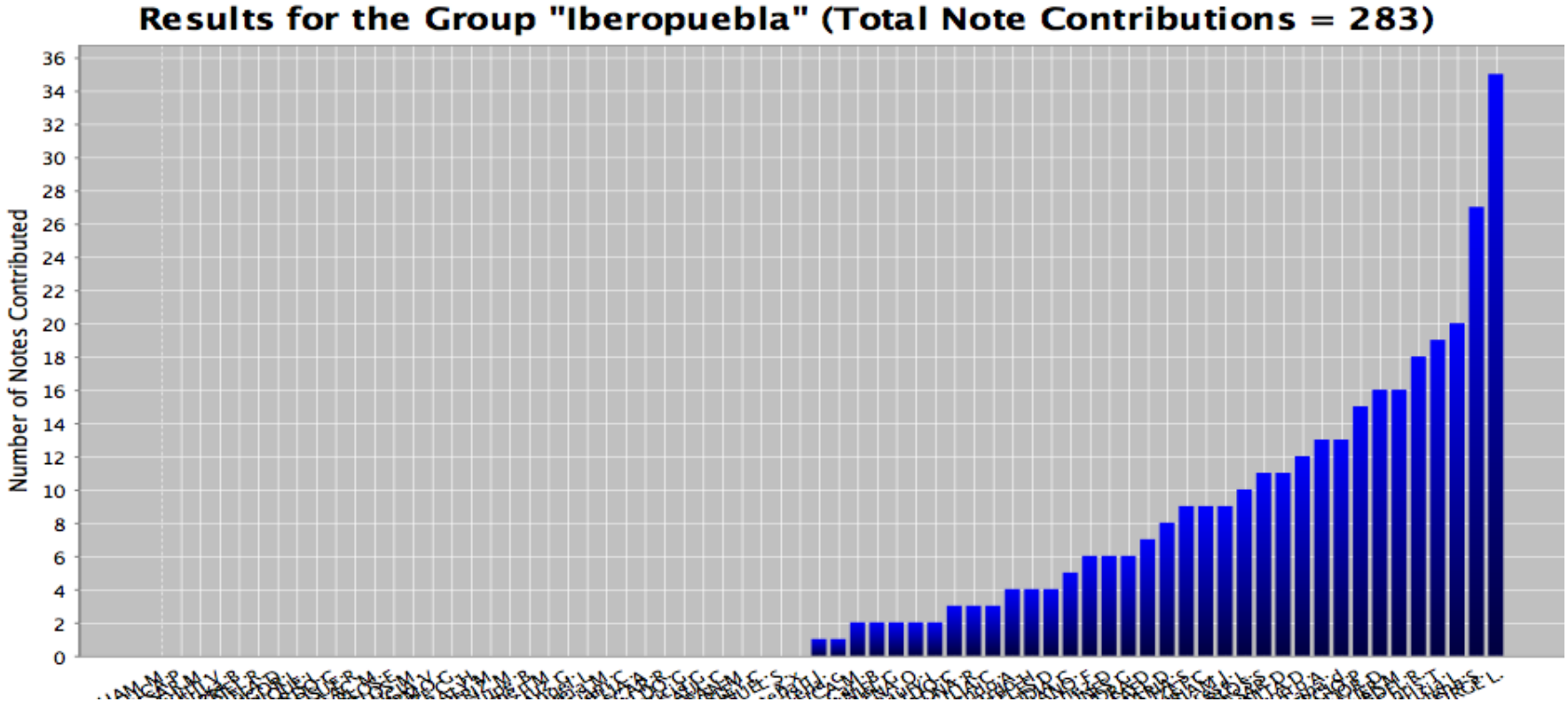
Troisième cycle

- Gravité
- Robotique
- Comment les oiseaux et les avions font-ils pour voler?
- Un oeuf à la mer!
- Acides et bases
- Les changements climatiques

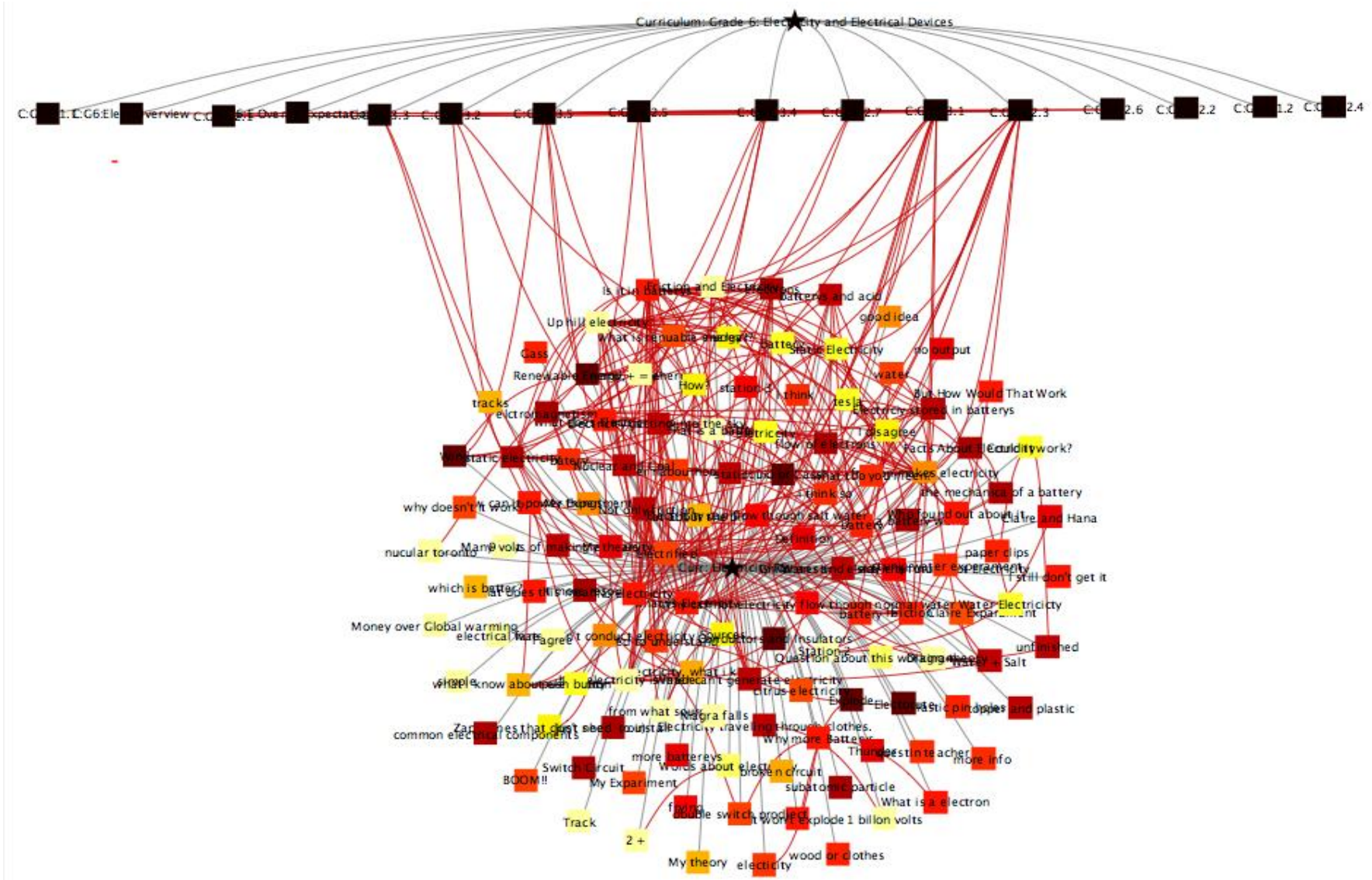

Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Canada
USA
Mexico
Colombia
Brazil
Japan
China
Taiwan
Norway
UK
Netherlands
Germany
Spain
Italy
Greece
Turkey
Israel
Knowledge Society Network

Tools to Support Concurrent, Embedded and Transformative Assessment



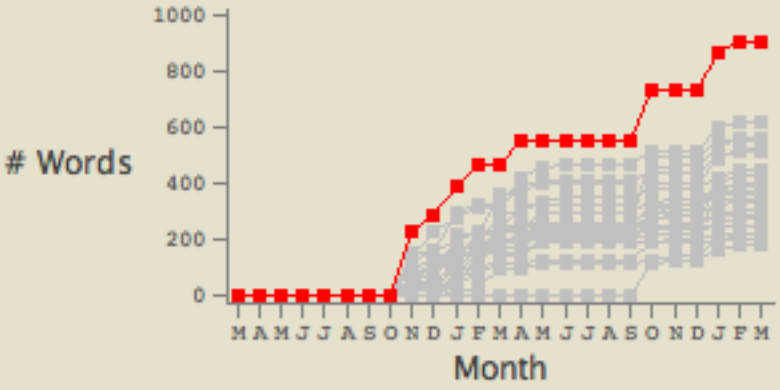

Results for the Group "Iberopuebla" (Total Note Contributions = 283)
Number of Notes Contributed
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36

Expert Corpus



Student

Vocabulary Growth



e j
a h
s l
j k
b b
e m
s e
g

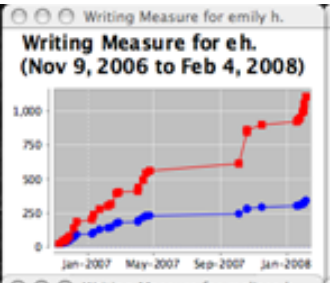
Select A Group

New Words

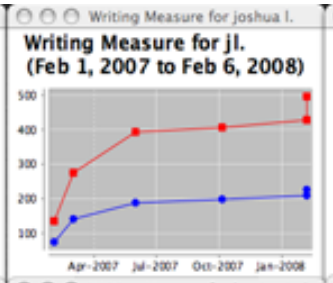
Roll over the red curve to see the number
of new words added during each time period.
Click on a point to show the new words below.

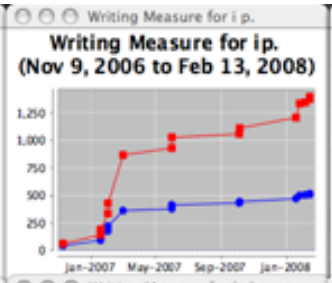
Basic (1)	*Advanced (105)*	*Misspelled? (24)*
again	acid	ergs
	ally	george
	alternating	hotbead
	amps	imposrtant
	anode	joules
	aren't	kilowatts
	atom	nikola
	away	pasteboard
	bad	rechargeable
	batteries	rection
	battery	tesla
	becomes	uneffective
	between	volta
	bush	voltaic
	calm	waaaaaaaaaaaa
	carbon	watts
	cathode	

Version 1.0.2


Writing Measure for emily h.
Writing Measure for eh.
(Nov 9, 2006 to Feb 4, 2008)

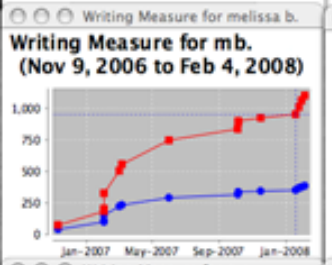

Writing Measure for kayla g.
Writing Measure for kg.
(Jan 25, 2007 to Jan 29, 2008)


Writing Measure for joshua l.
Writing Measure for jl.
(Feb 1, 2007 to Feb 6, 2008)

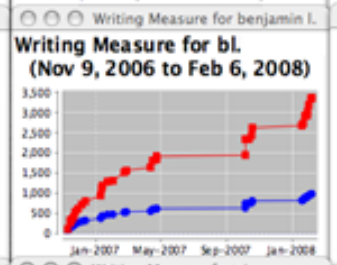

Writing Measure for i p.
Writing Measure for ip.
(Nov 9, 2006 to Feb 13, 2008)

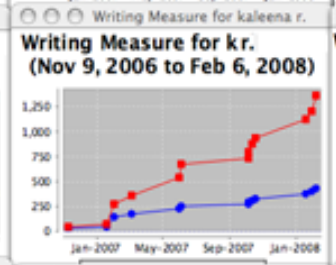

Writing Measure for a g.
Writing Measure for a g.
(Nov 20, 2006 to Jan 31, 2008)

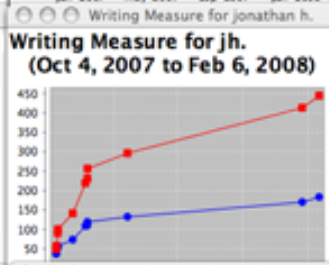

Writing Measure for alexandra j.
Writing Measure for aj.
(Jan 18, 2007 to Jan 28, 2008)

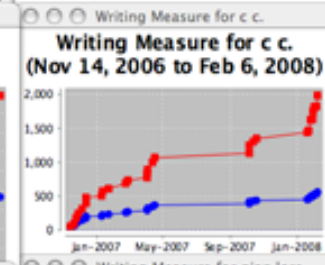

Writing Measure for melissa b.
Writing Measure for mb.
(Nov 9, 2006 to Feb 4, 2008)


Writing Measure for e m.
Writing Measure for e m.
(Nov 6, 2006 to Feb 13, 2008)


Writing Measure for benjamin l.
Writing Measure for bl.
(Nov 9, 2006 to Feb 6, 2008)


Writing Measure for kaleena r.
Writing Measure for kr.
(Nov 9, 2006 to Feb 6, 2008)


Writing Measure for jonathan h.
Writing Measure for jh.
(Oct 4, 2007 to Feb 6, 2008)


Writing Measure for c c.
Writing Measure for c c.
(Nov 14, 2006 to Feb 6, 2008)

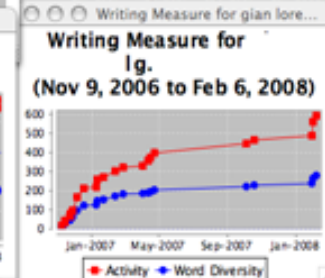

Writing Measure for g p.
Writing Measure for gp.
(Nov 9, 2006 to Jan 29, 2008)


Writing Measure for sergei k.
Writing Measure for s k.
(Feb 1, 2007 to Jan 29, 2008)

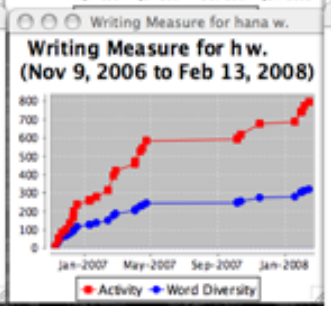

Writing Measure for simona m.
Writing Measure for sm.
(Nov 9, 2006 to Jan 21, 2008)


Writing Measure for simon s.
Writing Measure for ss.
(Nov 9, 2006 to Feb 6, 2008)

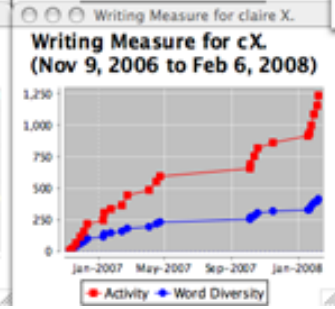

Writing Measure for noah w.
Writing Measure for nw.
(Nov 9, 2006 to Feb 6, 2008)


Writing Measure for gian lore...
Writing Measure for lg.
(Nov 9, 2006 to Feb 6, 2008)

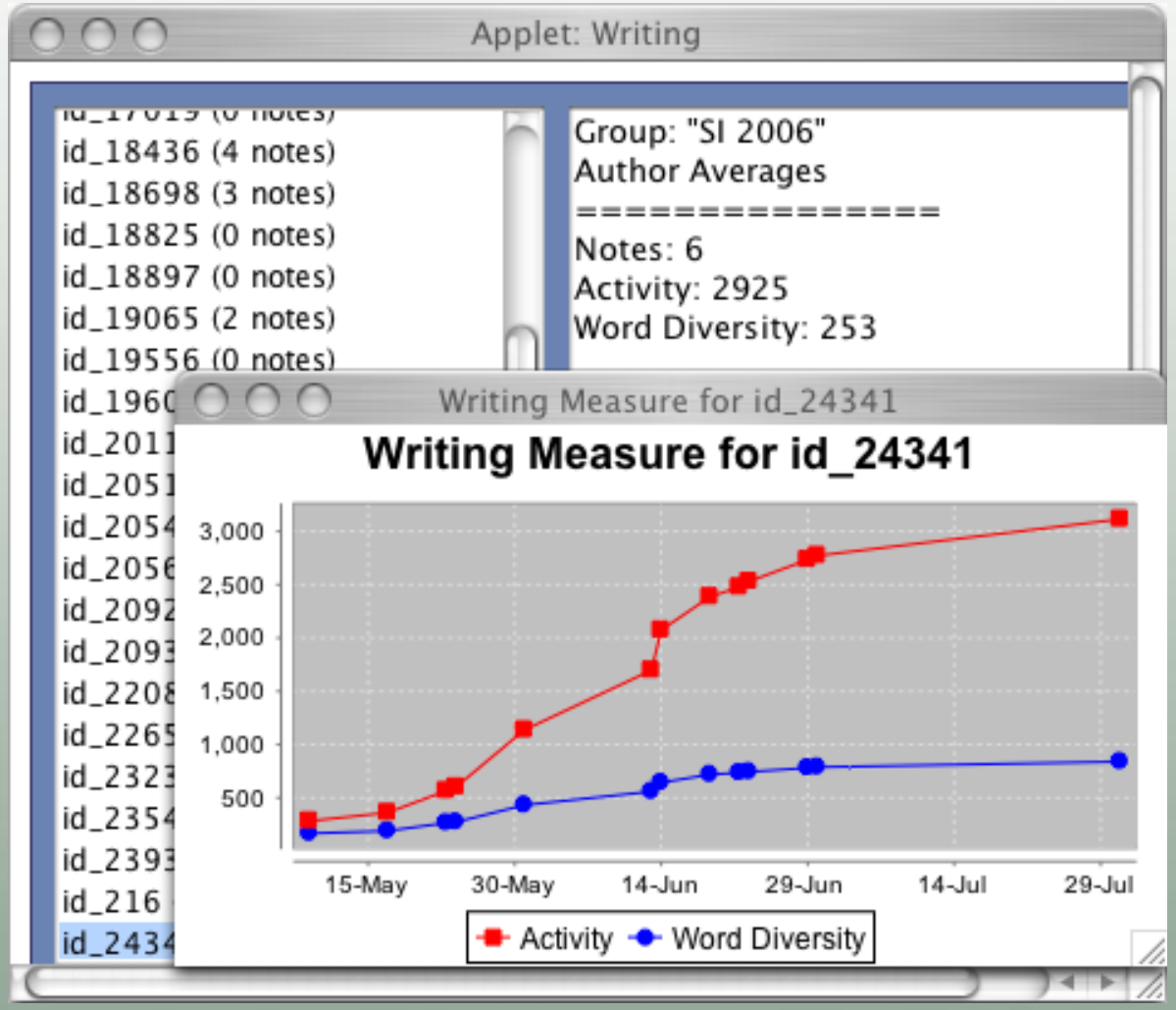

Writing Measure for shane f.
Writing Measure for sf.
(Nov 9, 2006 to Feb 6, 2008)


Writing Measure for hana w.
Writing Measure for hw.
(Nov 9, 2006 to Feb 13, 2008)


Writing Measure for h p.
Writing Measure for hp.
(Nov 9, 2006 to Feb 6, 2008)


Writing Measure for claire X.
Writing Measure for cX.
(Nov 9, 2006 to Feb 6, 2008)

Writing


Applet: Writing
id_18436 (4 notes)
id_18698 (3 notes)
id_18825 (0 notes)
id_18897 (0 notes)
id_19065 (2 notes)
id_19556 (0 notes)
Group: "SI 2006"
Author Averages
==========
Notes: 6
Activity: 2925
Word Diversity: 253
Writing Measure for id_24341
Writing Measure for id_24341
3,000
2,500
2,000
1,500
1,000
500
15-May
30-May
14-Jun
29-Jun
14-Jul
29-Jul
Activity
Word Diversity

Facts

* the trees in the wood chips next to the school were in blossom.

* the trees in the wood chips near the climbers were not in bloom

* the first trees had leaves and flower blossoms
  The second trees didn't have leaves or blossoms

* Spring is when things are supposed to blossom

Explanations

* maybe the Sun was more facing to one bunch of trees

* maybe they are different kinds of trees

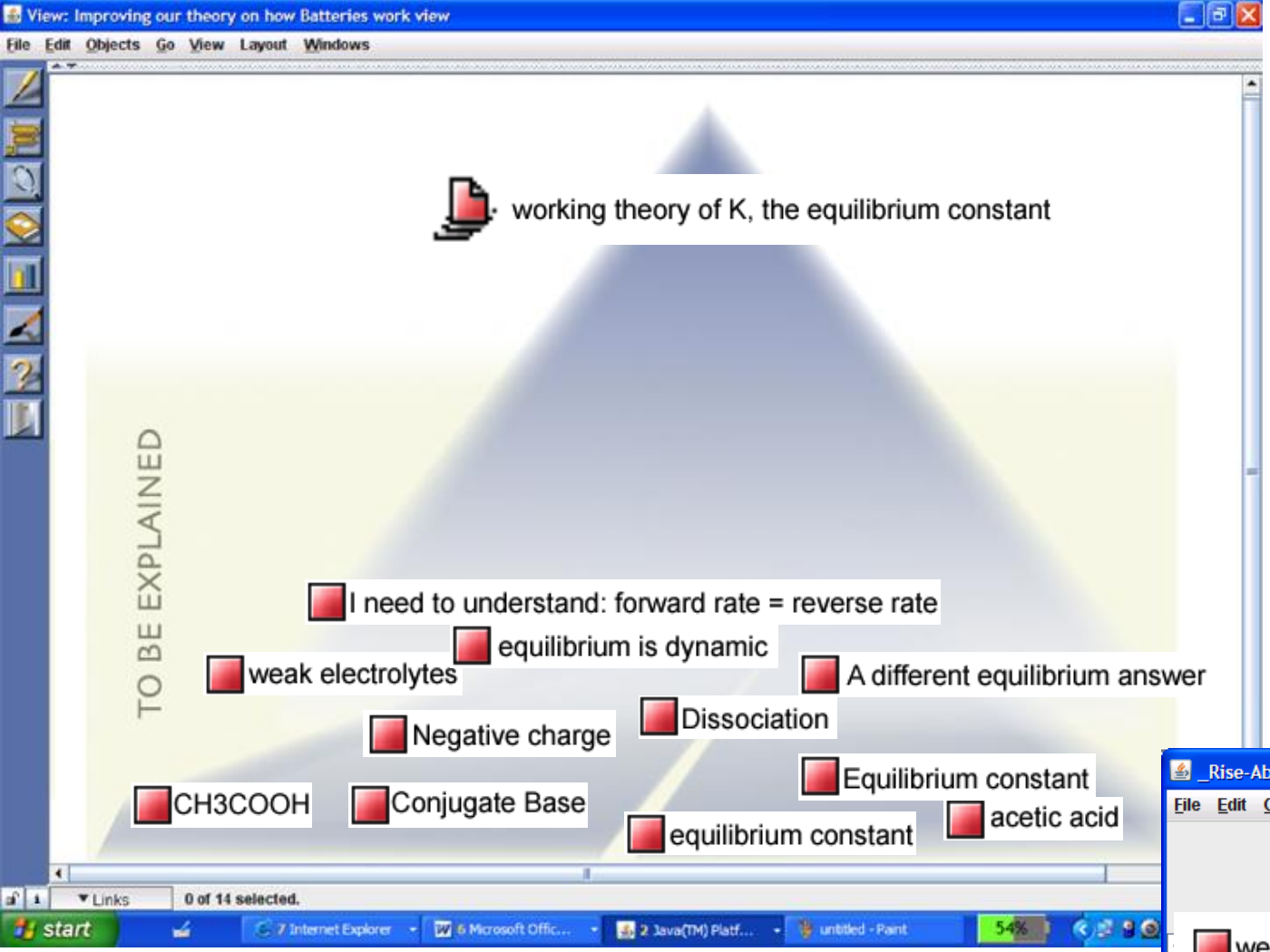
* maybe they are different ages

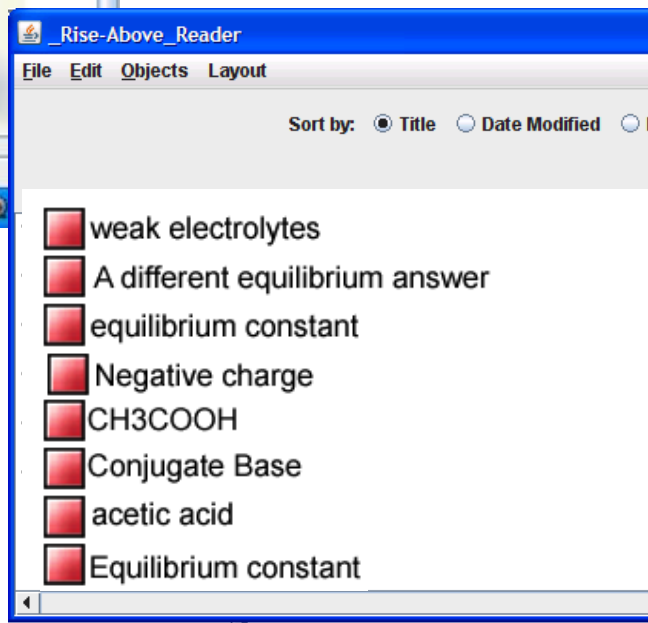
* maybe some of the trees got not as much sun or rain

* maybe some of the trees died in the winter

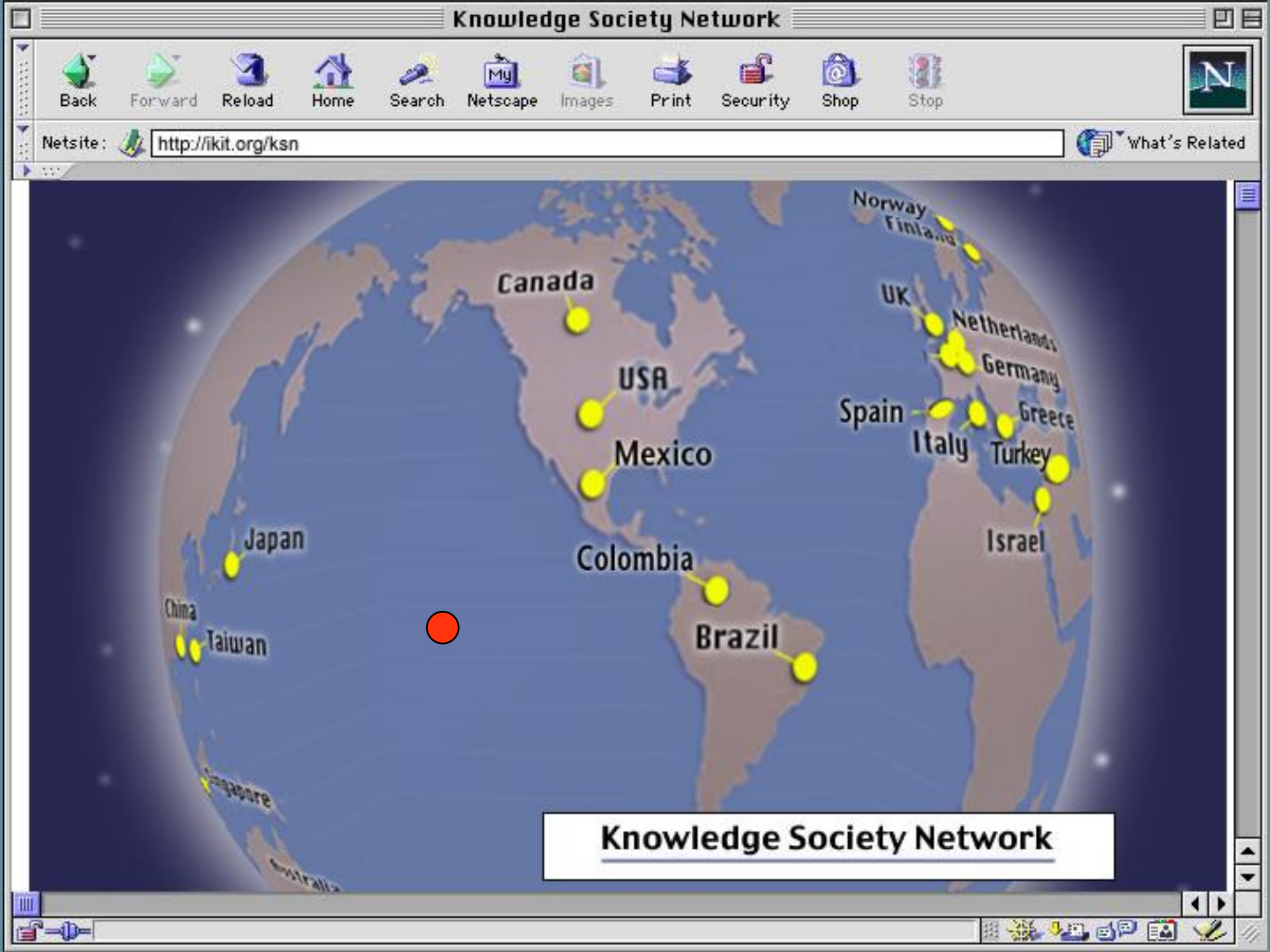
* maybe they were planted at different times

* sprinklers might not have worked


View: Improving our theory on how Batteries work view
File Edit Objects Go View Layout Windows
working theory of K, the equilibrium constant
TO BE EXPLAINED
I need to understand: forward rate = reverse rate
equilibrium is dynamic
weak electrolytes
A different equilibrium answer
Dissociation
Negative charge
Equilibrium constant
CH3COOH
Conjugate Base
acetic acid
equilibrium constant
Links
0 of 14 selected.
start
7 Internet Explorer
6 Microsoft Offic...
2 Java(TM) Platf...
untitled - Paint
54%


_Rise-Above_Reader
File Edit Objects Layout
Sort by: Title Date Modified
weak electrolytes
A different equilibrium answer
equilibrium constant
Negative charge
CH3COOH
Conjugate Base
acetic acid
Equilibrium constant

Knowledge Building, as far as we know, stands alone among educational approaches in relying primarily on work in design mode to engage students with deep disciplinary knowledge and to overcome misconceptions and wrong beliefs.


Knowledge Society Network
Back
Forward
Reload
Home
Search
Netscape
Images
Print
Security
Shop
Stop
Netsite:
http://ikit.org/ksn
What's Related
Norway
Canada
UK
Netherlands
Germany
USA
Spain
Greece
Italy
Turkey
Mexico
Israel
Japan
Colombia
China
Taiwan
Brazil
Knowledge Society Network