### Transforming Classroom Learning using New Technologies: A Blended Learning Case Study ...

If you prefer to learn-by-doing, please pick up an HP
 Tablet PC so you can participate in the demonstration of some new technologies ...

.....or .....

• If you prefer to learn-by-watching, please sit beside someone with an HP Tablet PC, or in a place where you can observe others ...

### RAs who are assisting today ...

- Ali Daneshvar
- Ankit Kapoor
- Arnold Lai
- Bonnie Lau
- Crystal Ramkalawan
- Divya Kamath
- John Tan
- Judith But

# Transforming Classroom Learning using New Technologies:

A Blended Learning Case Study at Schulich School of Business

### Agenda

 A brief history of technological innovation at Schulich ...

Ron McClean

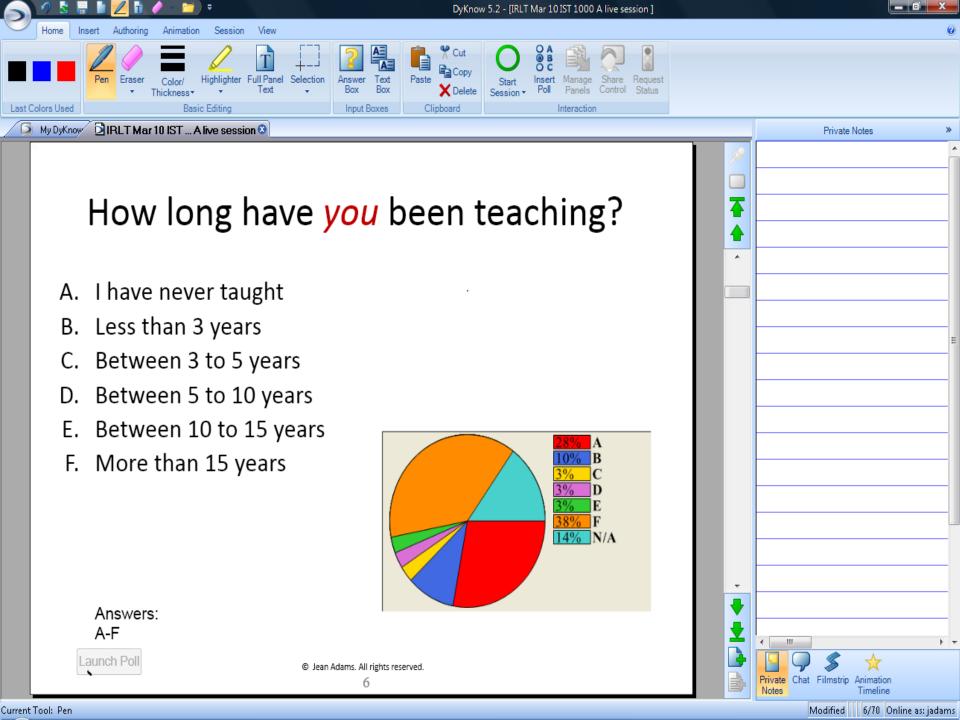
 Blended Learning Case: Using new technologies to transform teaching and learning ...

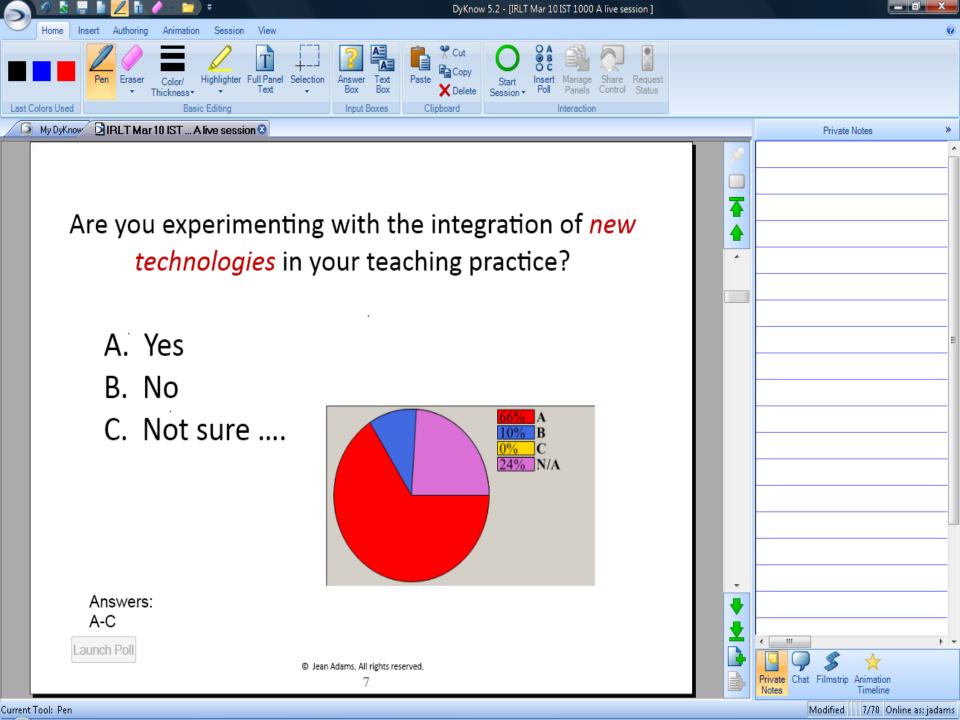
Jean Adams

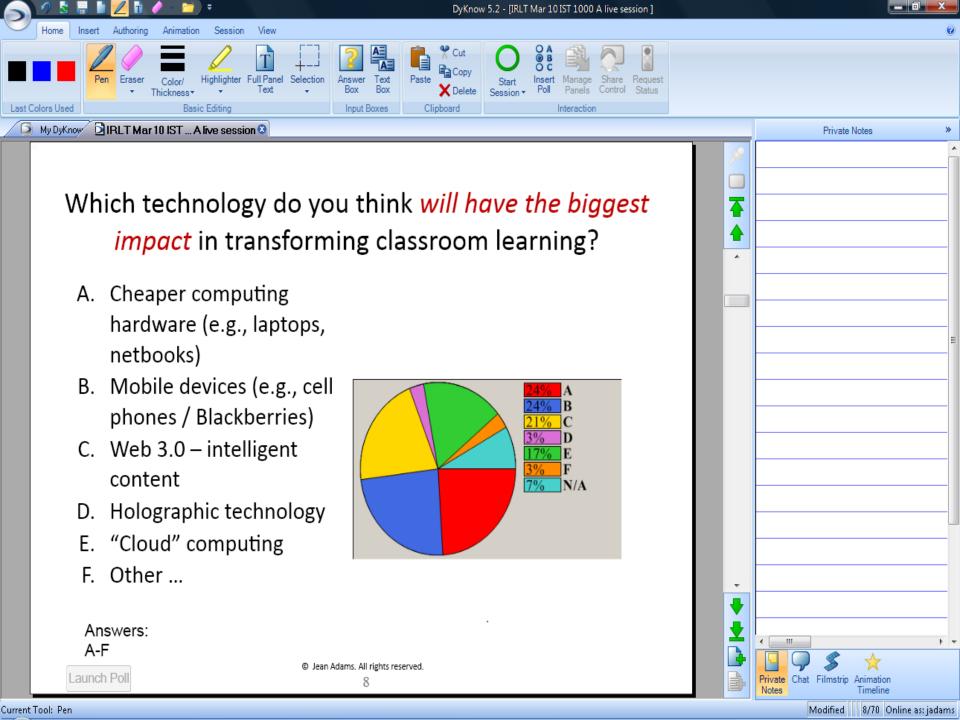
Discussion, implications and questions ...

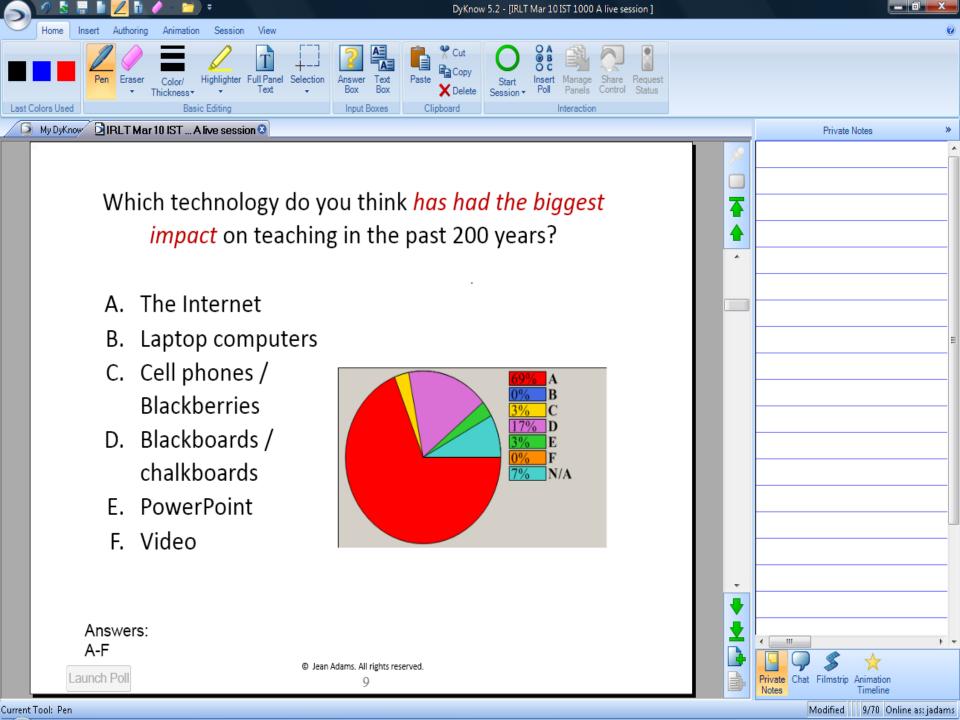
Please hold your questions to the end.
Chances are we will answer many of them as the session continues.

# Before we begin, a few questions...









# "The blackboard revolutionized education."



When were chalkboards first used for instruction? James Pillans, Headmaster of the Old High School of Edinburgh, Scotland, is widely credited for inventing the blackboard and colored chalk which he used to teach geography.

Mr. George Baron, an instructor at West Point Military Academy, is considered to be the first American instructor to incorporate the use of a large black chalk board into the presentation of his math lessons in 1801. However, it's probable that a few other schools had access to it, also.

Thanks to such "out of the box" thinking on the part of a few instructors, the benefits of chalk and blackboards became clearly apparent.

Schoolhouses across America that could afford the slate material adopted the medium because it saved teachers re-writing and allowed them to educate larger numbers of students easily. Large-size slabs of slate boards were ordered and shipped across America via the ever-expanding railroad systems.

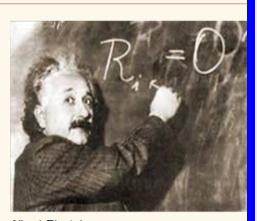
this innovative teaching tool. By the mid-

Even single-room schoolhouses in far rural areas of the country began enjoying the use of this innovative teaching tool. By the mid-1800s, a blackboard was to be found in almost every school and had become the single most important educational tool. Chalk boards remained the primary all-around educational fixture in schoolrooms and businesses for almost 200 years. Even the corkboard wasn't invented for presentations until 1891.

### Link to this screen

These boards became equally important in business offices. Blackboards soon became equally important in business organizations, as well as in the fields of math and science, long before the materials were even invented from which whiteboards could be manufactured. Thanks to the chalk board, not only were large amounts of people in the same room able to be presented with the same material all at once, but these boards also became a method of working out long strings of problems and "brain storming" new concepts among several people at once.

Some people, like the famous fellow at right, were known to do some of their best work on black boards!

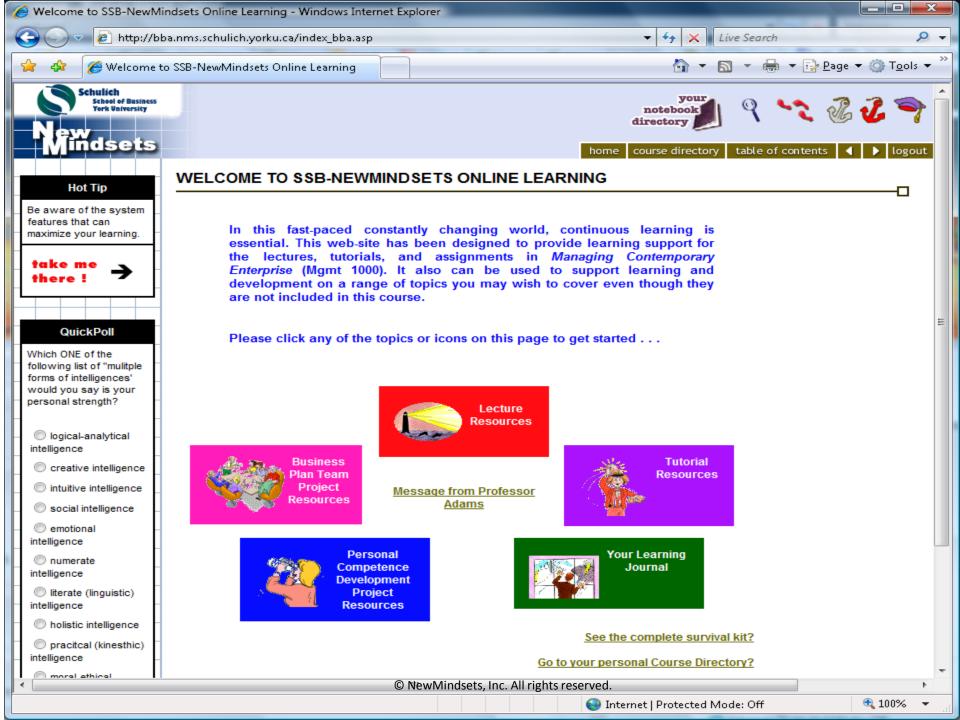


Albert Einstein

# A Brief History of Technological Innovation at Schulich ...

- Blackboards and chalk
  - Allows "participative" note taking
- Overhead projectors
  - Use of acetate rolls
    - Still participative
  - Acetate slides
    - Fixed presentations and annotations
    - Hard to take complete notes
- SliTex, Harvard Graphics and PowerPoint
  - Turn lectures into presentations
  - Limited by producing physical slides

- Computer projectors
  - First ones were for teaching computer programming
  - Projected presentation screens became the dominant form of use
- Learning Space, Course Material Databases (1997)
  - Primary use is to distribute slides and readings
    - Slides to be printed before class and annotated for notes
  - Other uses include bulletin boards, discussion spaces, grading and gradebooks
- Internet Access in classrooms (Fall, 1999)
- NewMindSets online content (Fall, 2000)
  - Presented management education material in ways suited to online reading and interaction
    - Learning "bytes", pictures.



- New Building (2003)
  - Wireless access in all classrooms
  - Complete presentation systems in all classrooms => PowerPoint for all !!
- Fall 2006 redesigning MGMT 1000
  - Moodle
    - Sort of an open source version of CMDs, but with lots of added features, nicely done, fully web-based
    - Used elsewhere in the university
  - On-line course evaluations
  - Clickers (personal response units)
    - Worked, sort of, for polling in class
      - Adds more student interactivity to class
      - Too intrusive

HP Technology for Teaching Research grant Program

- Program has been running for 5 years
- Participants are invited to submit a proposal
  - For example, 44 "Higher Ed" awards were granted to university/colleges throughout the world two years ago (2007)
    - 3 in Canada; Mostly engineering, computer science & science schools; Very few business schools
- ROUND 1 Fall 2007: We competed for, and received, a grant for 2007, based on that proposal.
  - 21 tablet PCs (with extra batteries and cart); Wireless router, printer, digital camera;
     Cash support for incidentals
- ROUND 2 Fall 2008: We were invited to submit a proposal, based on the success
  of our first award, for Technology for Teaching Leadership Award
  - Only past T4T award winners could compete
  - Only 10 were awarded in North America, only 1 in Canada us
  - Brought 42 new tablets

#### Old Pedagogy: "Bucketfilling"

#### **Definition of a Lecture:**

From the notes of the professor

To the notes of the student

Without going through the heads of either

Gareth Morgan (1972)

Distinguished Research Professor Schulich School of Business

#### Old "Teaching" Pedagogy

- 1. Instructor makes notes ahead of class
- Instructor copies notes to blackboard, perhaps improvising around them
- 3. Students copy notes into real notebooks, perhaps annotating as they go
  - Powerpoint simplifies steps 1 & 2
  - LMS can simplify part of step 3, but you need to "freeze" the slides, and students need to download them ahead of time, and print them to annotate

# Our Challenge: Creating "Collaborative, Interactive Learning" Environments

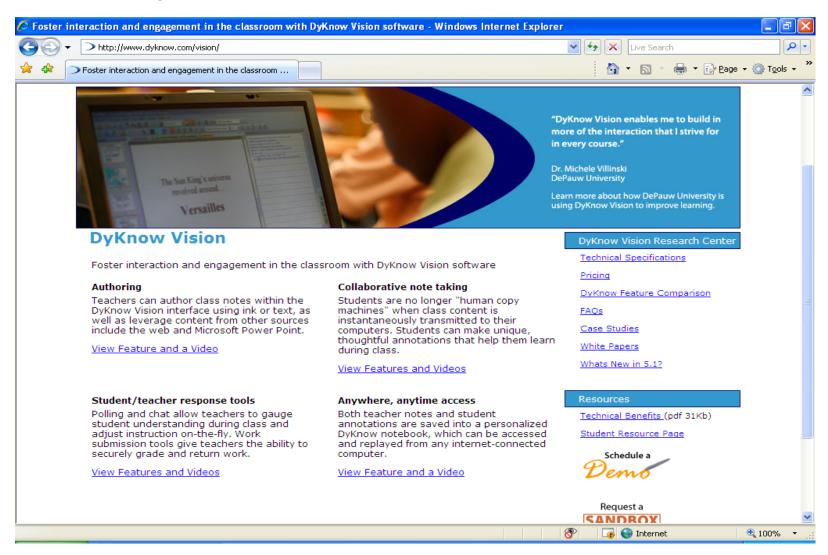
Challenge has been to engage the student –
 make the class more interactive

- In 2006 and 2007:
  - We pioneered in the use of "clickers" to enhance classroom interactivity in MGMT 1000, but found them somewhat intrusive.
  - We wanted to create learning environments with opportunities for more collaborative groupwork and more interaction between students.

### Creating "Collaborative, Interactive Learning" Environments at SSB

- In 2008 and 2009:
  - We trialed DyKnow collaborative software in conjunction with NewMindsets.
  - DyKnow allows:
    - Real-time annotation of slides as they are presented to the students
    - Less intrusive polling a popup screen on a laptop
    - Group work and sharing of workspace screens
    - (...Jean will be demonstrating this today ...)

#### Dyknow Software - Website





#### Dyknow Software – *Some features*

- Promotes shared learning sessions
  - Between lecturer and student primarily
    - Slides can be automatically downloaded, and annotated for note taking with tablets and laptops
    - Sessions are stored for each individual on an SQL Server can be replayed later, from anywhere
    - Has an easy-to-use query feature (replaces "clickers")
  - Among students
    - Can be used to randomly assign work groups
    - Promotes shared workspaces between work groups

### Creating "Collaborative, Interactive Learning" Environments at SSB

New Technology Infrastructure was required:

- Dyknow provoked investment in new technologies (2008)
  - New server with SQL Server running
  - Beefed up wireless capacity in McEwan auditorium
    - Went from 1 access point to 3 access points
  - → we generally have 200 simultaneous wireless connections in McEwan (a record!)
    - A "sea" of laptops



### Summary: Creating "Collaborative, Interactive Learning" Environments

- We've found the most effective combination of new technologies for creating a highly collaborative and interactive classrooms is:
  - HP Tablets for pen-based annotation
  - DyKnow collaborative software that includes polling, grouping and many other features
  - NewMindsets online content for supporting individual and collective learning before, during and after class

# Blended Learning Case: Using new technologies to transform teaching and learning at SSB...

Live demonstration

### ... just for fun!

I'm creating random virtual teams now.

... Say "hello" to your teammates ...

### Some Background: Managing Contemporary Enterprise

- Introductory core undergraduate course
- Approximately 400 incoming students
- Tuesday classes in McEwan auditorium
- Thursday tutorials (25 students)

#### Some Challenges / Opportunities:

- 16 to 19 years "young"
- Different skill levels & expectations
- High achievers "A" students with entrance scholarships
- Digital natives!

### Say goodbye to your colleagues

I'm closing the online chat ...

#### Pedagogical Shift

Our primary teaching aim was to move

FROM ....

An instructor-in-control approach

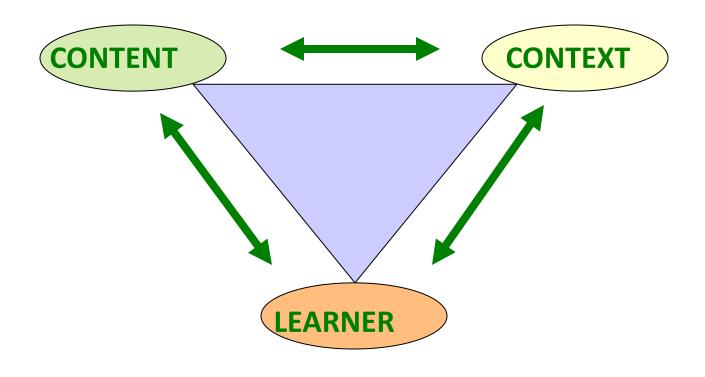
TO ...

A learner-in-control approach

#### **EMPLOYING**

A "soft-skills learning triangle" methodology

### Soft-skills Learning Triangle



(Adams, 2004)



#### We have been using various learning technologies to shift to a more learner-controlled pedagogical approach using the Soft-skills Learning Triangle as our guiding principle...



#### USE TECHNOLOGY AS A CATALYST FOR LEARNING

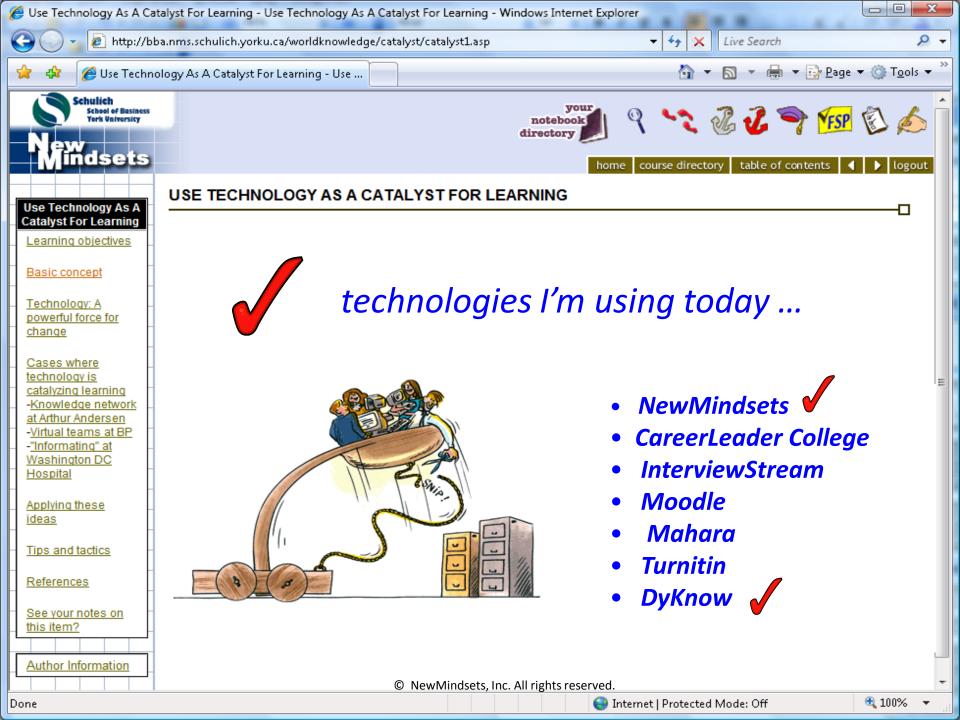
New technologies create many new learning opportunities. They can help people catapult themselves into "knowledge work" and develop new capacities for success in a knowledge economy.



#### Web-technologies I'm using to empower learning:

- **NewMindsets**
- CareerLeader College
- *InterviewStream*
- Moodle
- Mahara
- **Turnitin**
- **DyKnow**

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# ...*DyKnow* walk-about-moderator with an *HP Tablet PC*

... gives me the freedom to teachon-the fly ...

#### I login to:

- the console computer and...
- my HP Tablet.

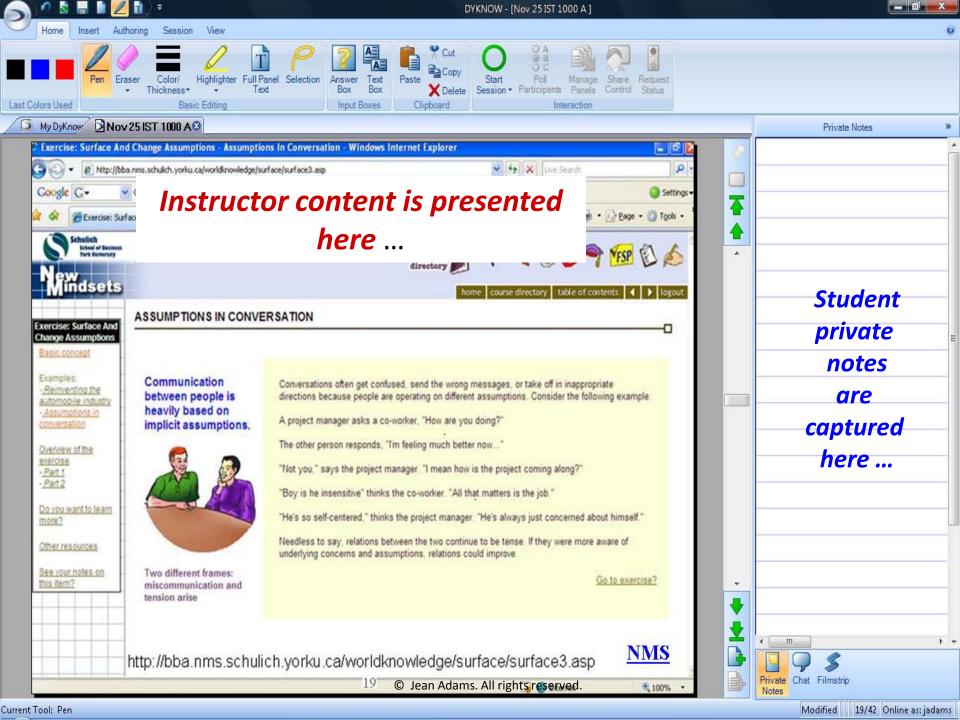
I can access slides and features from anywhere in my classroom ...

#### My Prior Dilemma:

Should I post slides before or after class?

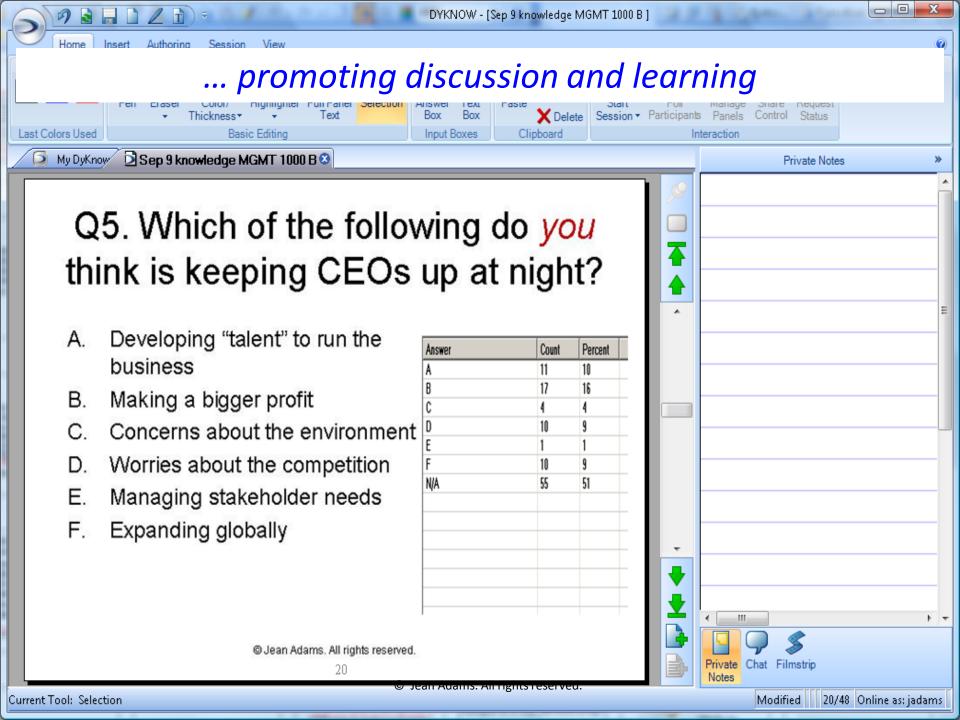
Now my class slides are projected on the student laptops in real-time ...

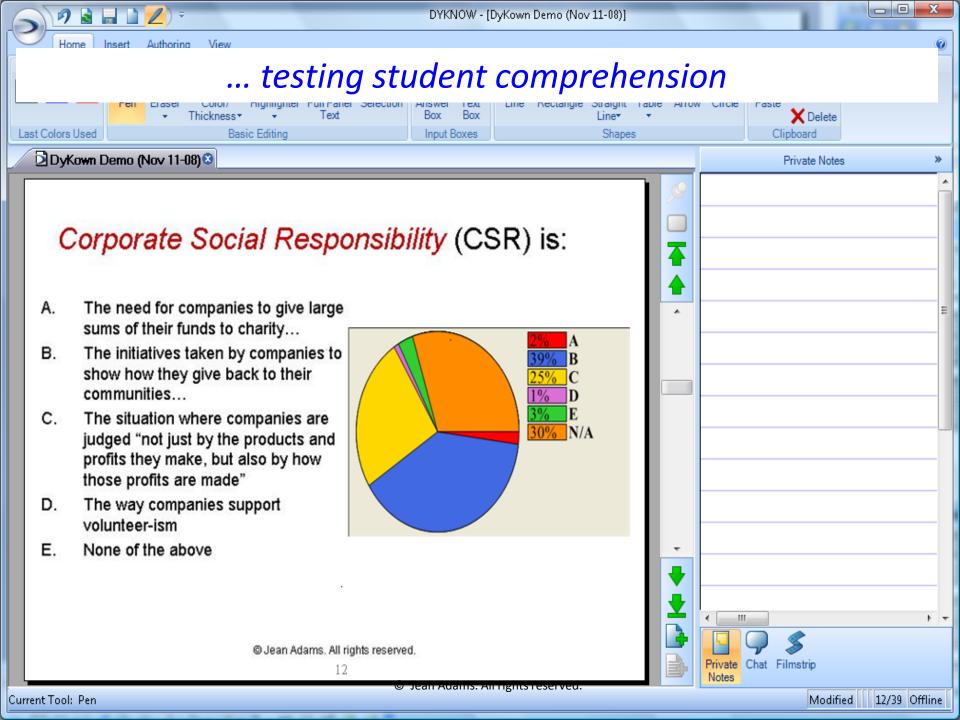
... where students can annotate my slides with their comments and private notes in classes and tutorials

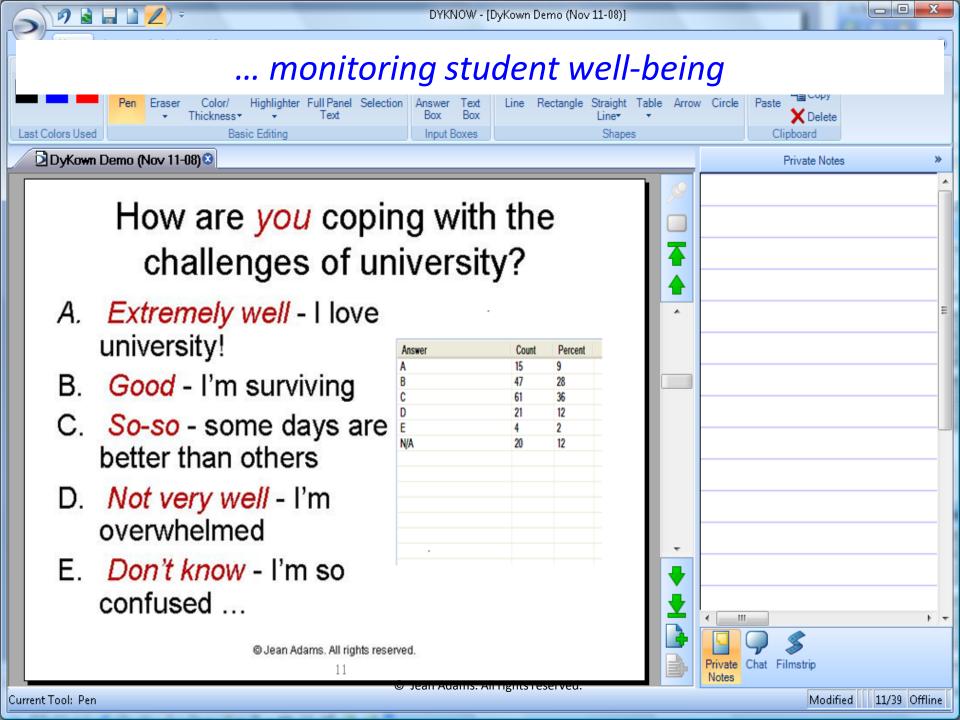


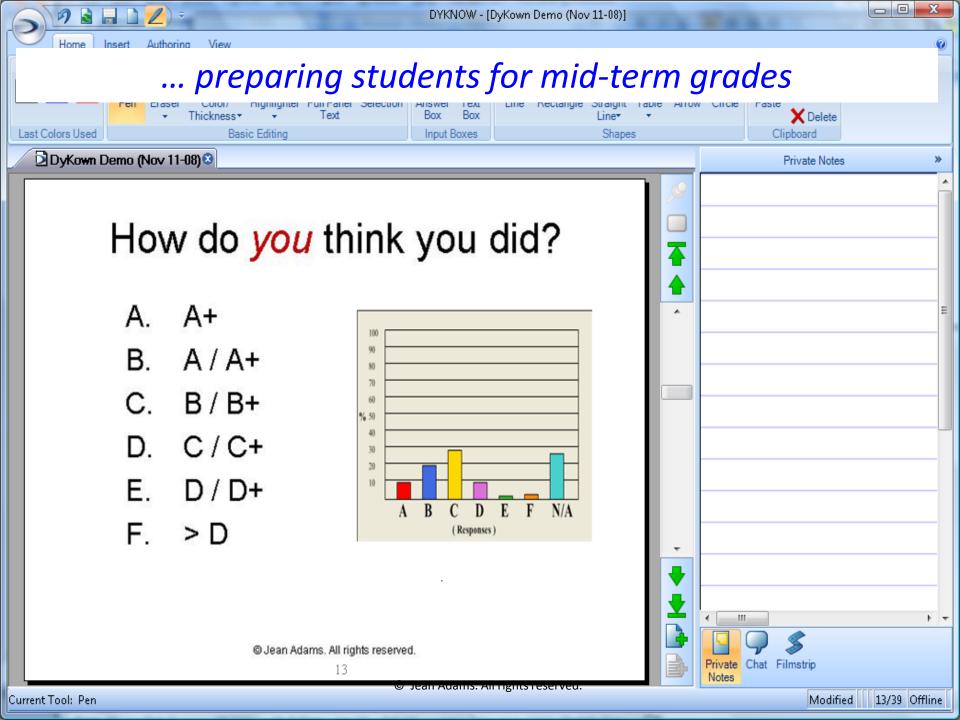
#### DyKnow polls are used for:

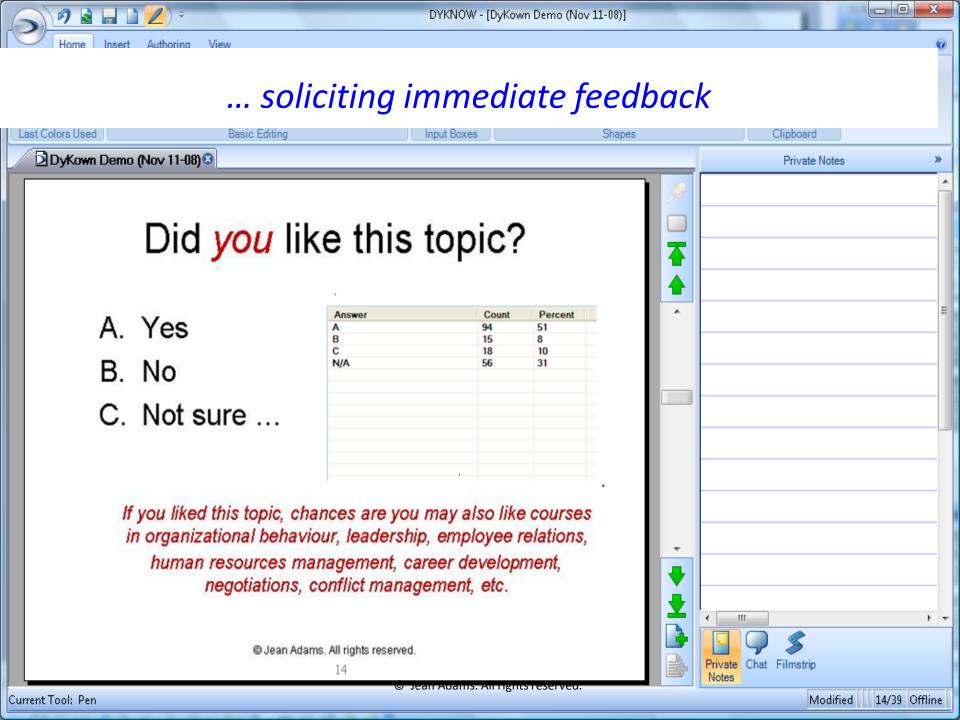
- Promoting discussion and learning
- Testing student comprehension
- Monitoring student well-being
- Soliciting immediate feedback





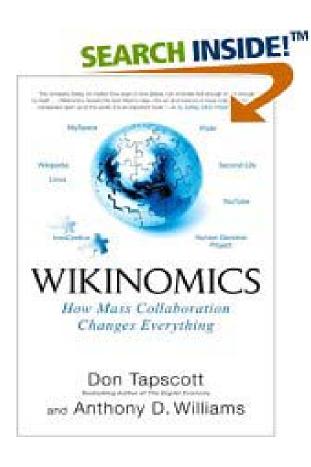






# Live weblinks are embedded in my class slides ...

## ...providing links to additional content for those interested in learning more



Wikinomics: How Mass Collaboration Changes Everything

by Don Tapscott and Anthony D. Williams

Source: Amazon.com



## ... providing links to other technologies we're using in the class ...

#### InterviewStream

Please welcome Lyla Khorani & Lisa Pierosara



### ... delivering information to support student announcements and events ...

Hi Prof Jean Adams!

This is Arnold and Zayna, first year reps for CSRS and also your MGMT 1000 students. As per our discussion last week, this is just a reminder that we would like to speak in front of MGMT 1000 for 2 minutes on Tuesday November 4th to promote the CORE Conference.

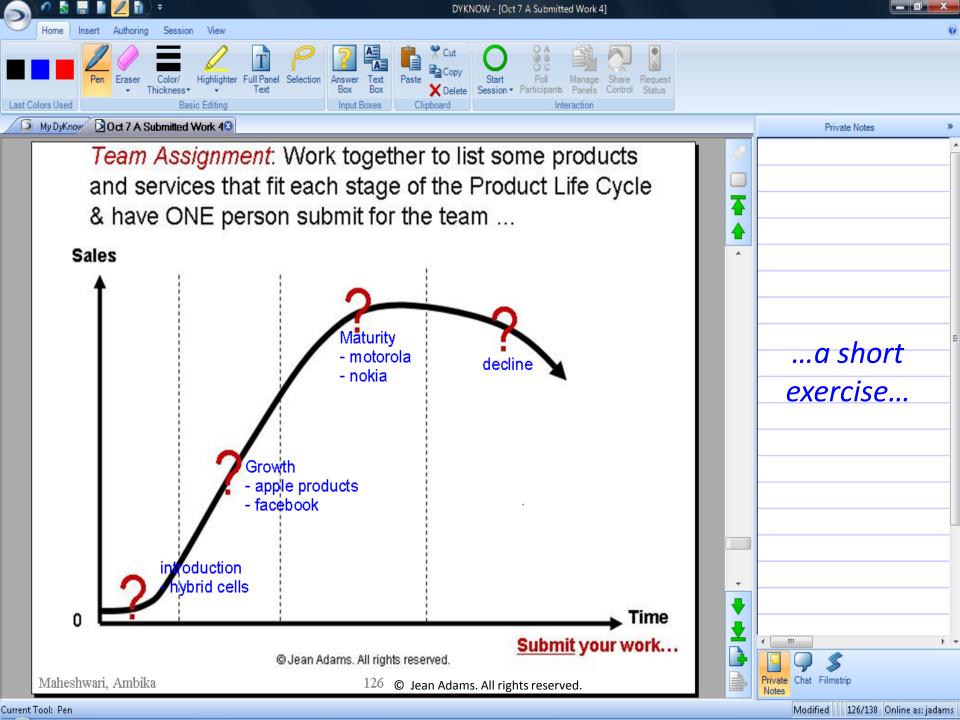
If you could please add a slide in Dyknow with this link http://csrsociety.com/ that would be great!

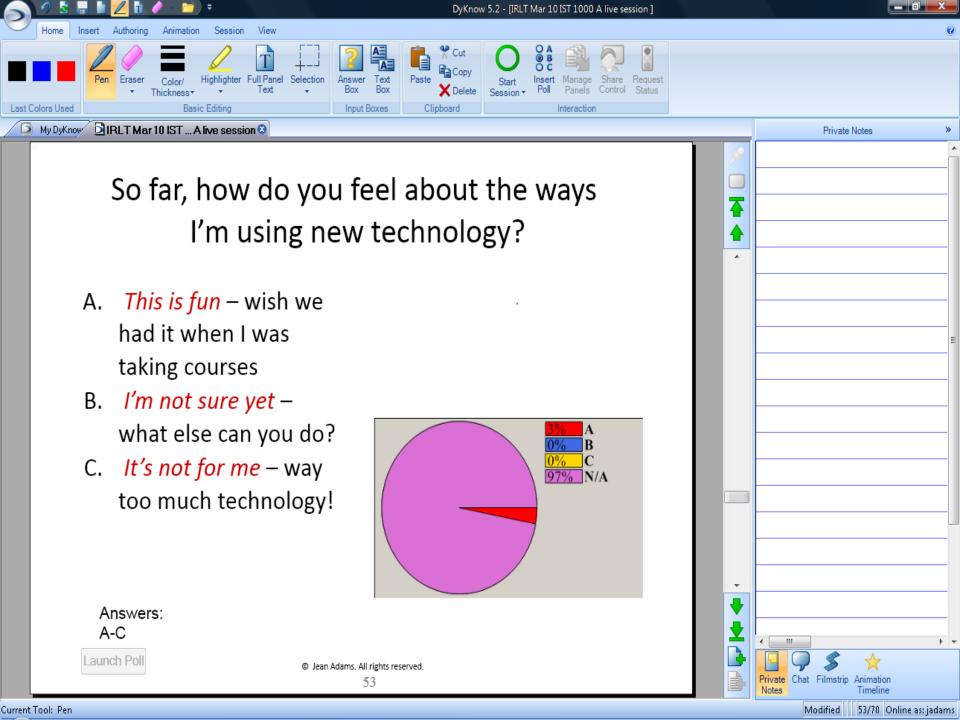
Thanks a lot!

Syeda Zayna Ali and Arnold Lai



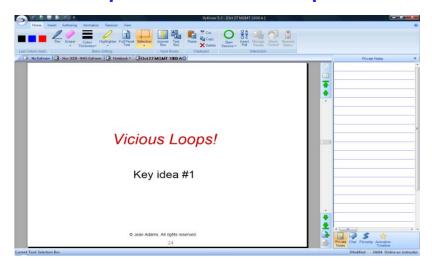
# Individual work is showcased in real-time ...



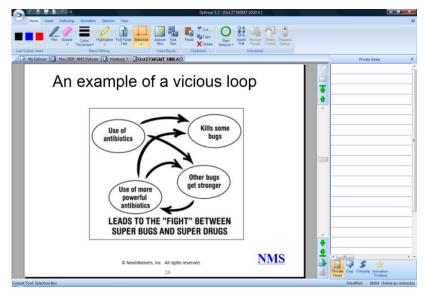


# Group exercises are completed online and presented *in real-time* ...

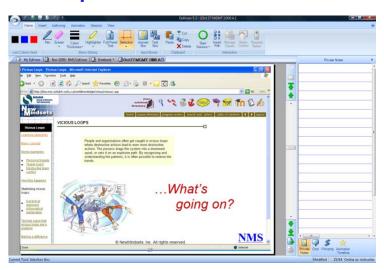
#### **Step 1: Introduce the topic**



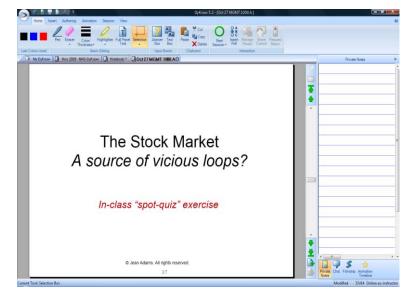
**Step 3: Give an example** 



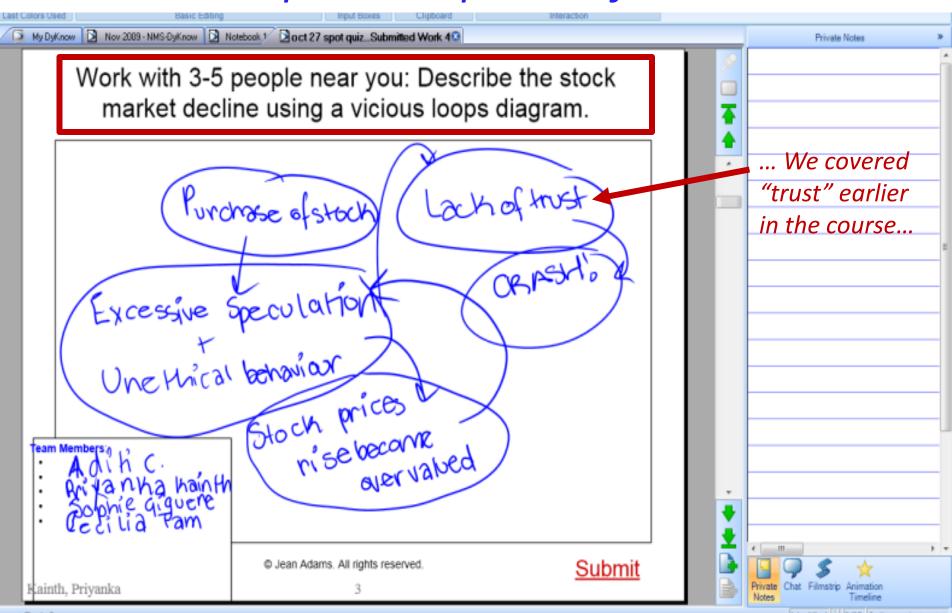
**Step 2: Cover the content** 

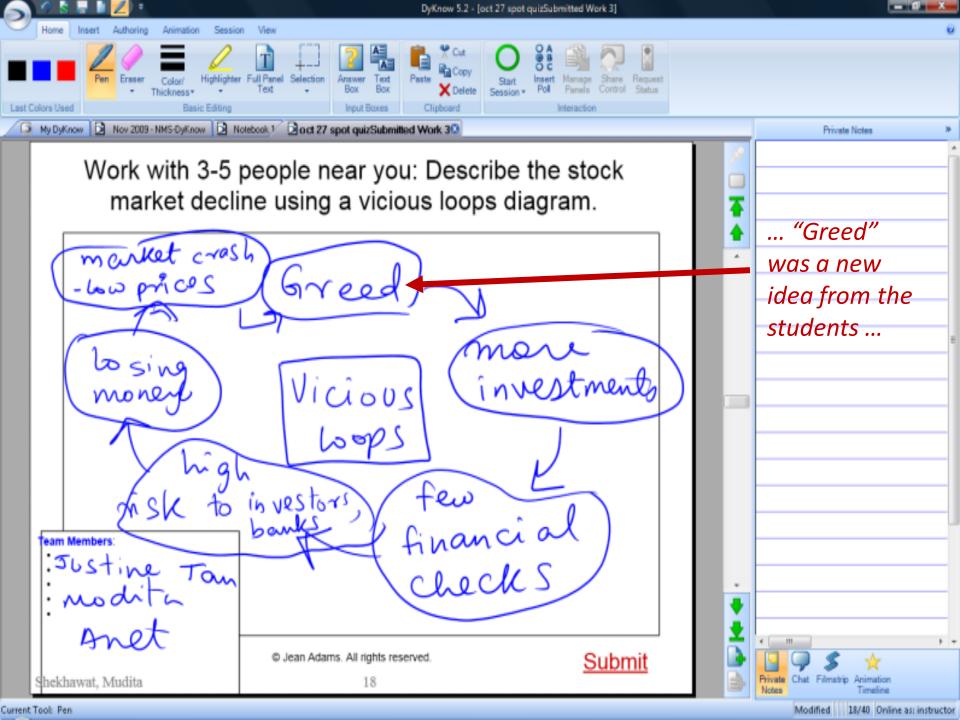


**Step 4: Apply the ideas** 

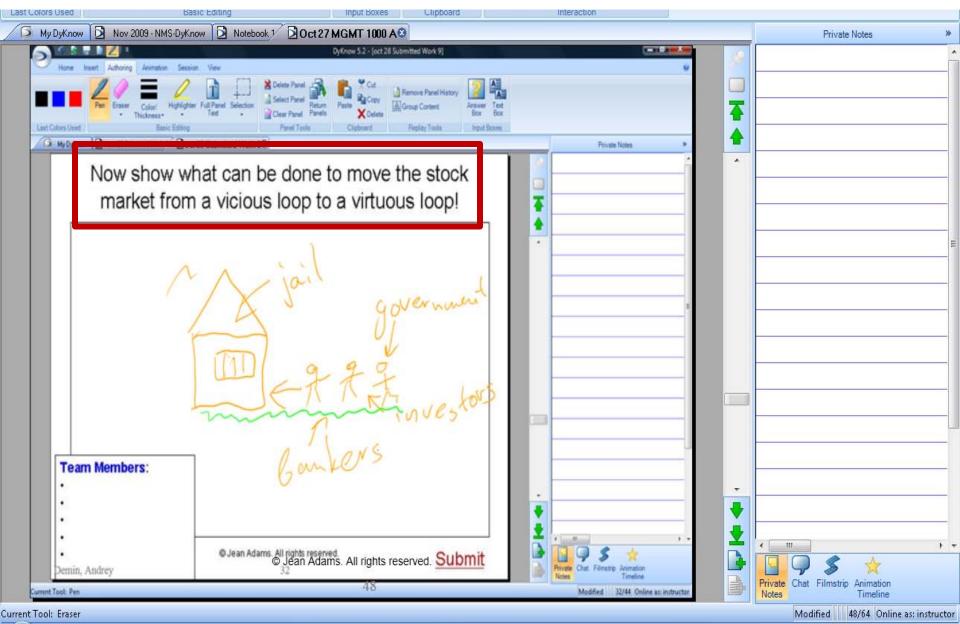


#### ... student response to part 1 of this exercise ...





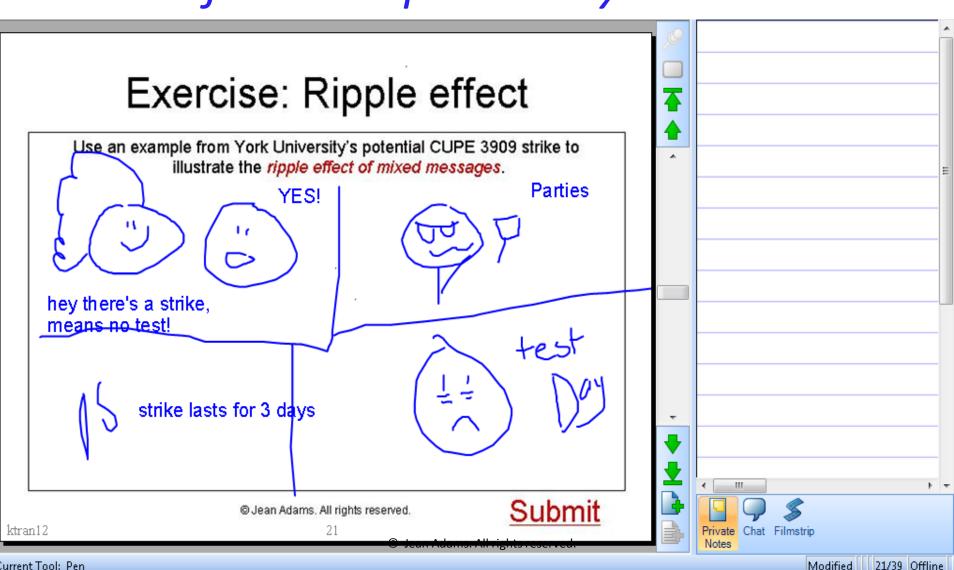
#### student response to part 2 of this exercise ...







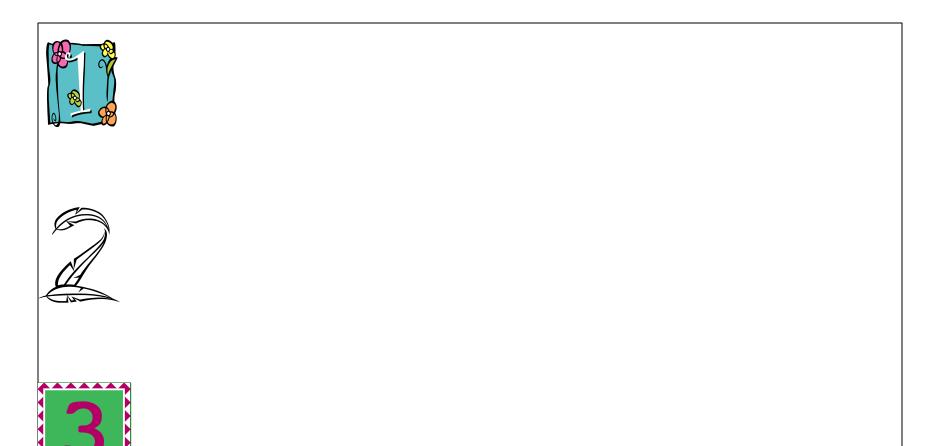
#### ... another example of an exercise from the previous year ...



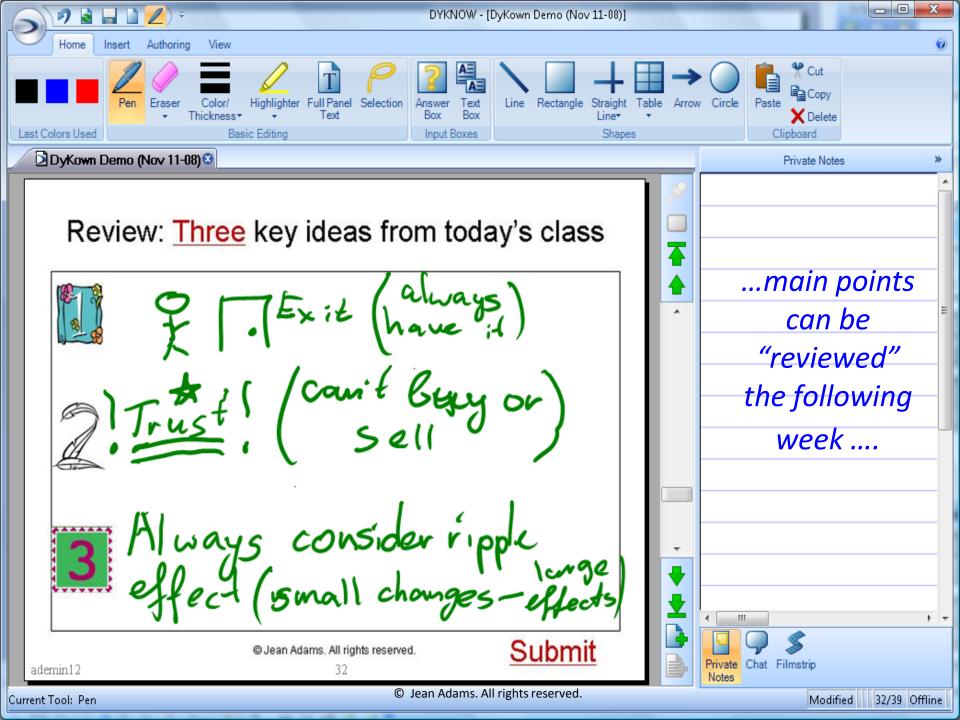
## ...Using the "submit panel" feature for review...

It's your turn now ...

#### Review: Key ideas from today's session







# Are the changes making a difference?

#### ... Students send me notes like this ...

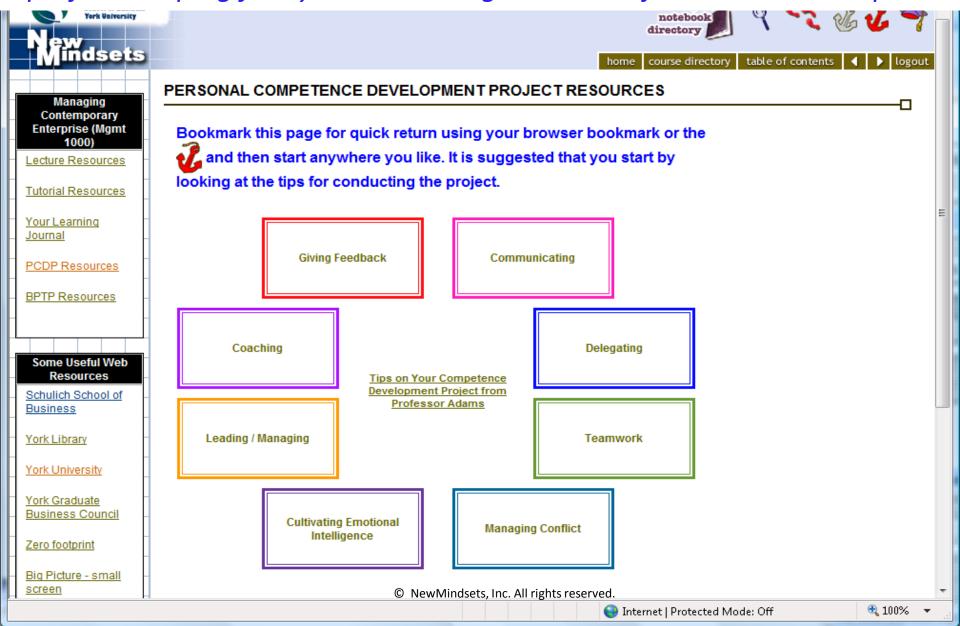
"Hi Professor Adams,

I just wanted to thank you for teaching me last semester (MGMT 1000) and to let you know that I had a great experience. When the course first started I was initially skeptical since some course concepts seemed very basic and simple, but I now realize that while this is true, people rarely take the time to logically examine these issues and come up with solutions, which this course taught me to do. As well, looking back, it's amazing how applicable the material covered in management class is in so many different situations. Terms and concepts learned come up in classes ranging from organizational behaviour to accounting.

I also appreciated the technological aspects of the class .... I really appreciated the usage of NewMindsets. As I am prone to be on the computer and online, it was very convenient and even provided motivation to complete the readings since they were so easily accessible. I also really enjoyed the ability to write the midterm on the computer and also the final exam format ... I felt it was very fair and really tested someone's knowledge.

I really enjoyed the experience of completing the PCDP as well. The project's concept is ingenious. I treated it as an opportunity for self-development as opposed to just another project and was surprised by how much it helped me view opportunities in my life. ..."

... some examples of student work on self-directed skill development projects helping first year students get summer jobs and internships ...







#### Wednesday, January 27, 2010

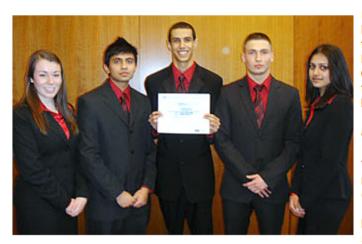
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#### More News

#### Schulich's e-Host team heads to national Enterprize competition in Vancouver

A five-member team of undergraduate students from York's Schulich School of Business will head to Vancouver next month to compete in the 2010 Enterprize Canada Business Plan Competition, one of Canada's largest student-run entrepreneurship organizations.

Calling themselves the e-Host team, Schulich students Feroz Qayyum, Deepthi Ravula, Kathryn Savoie, Erwin Sirbu and Aized Sethna earned the right to compete in the national competition after finishing third in the Enterprize Central Canada Regional Competition Jan. 16. The top three teams from each region are eligible to compete in the national Enterprize competition. The national semifinals will take place Feb. 5 with the final round on Feb. 6. The e-Host team will compete against students from across Canada.

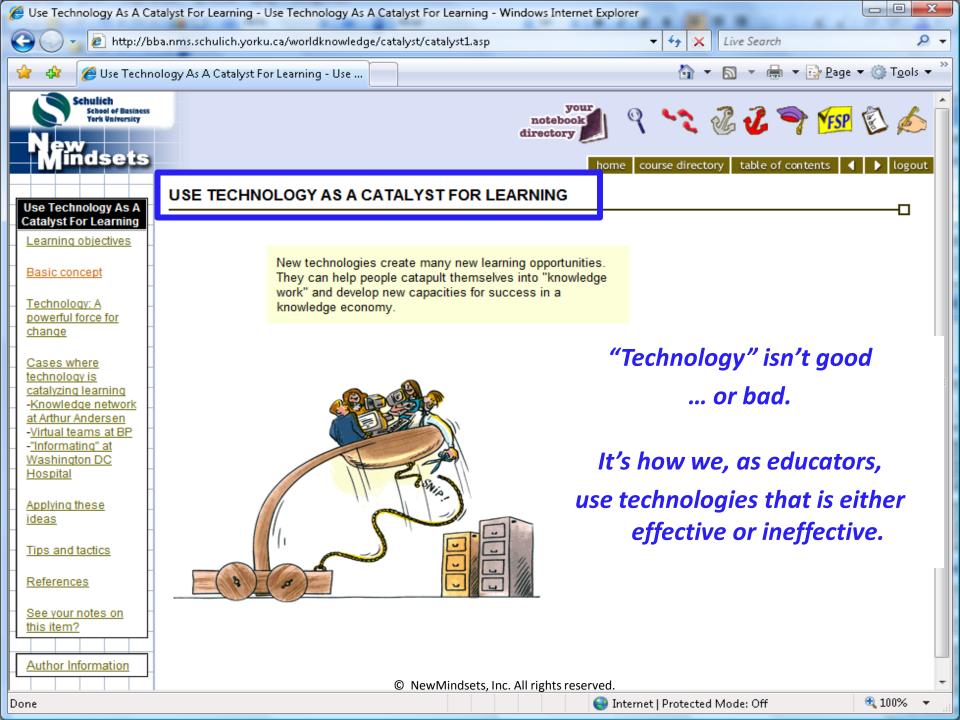


Left: The Schulich e-Host team is heading to the Enterprize Canada **Business Plan** Competition. From left to right, Kathryn Savoie, Feroz Qayyum, Aized Sethna, Erwin Sirbu and Deepthi Ravula.

The competition requires each team to come up with a business plan. The e-Host team has created a touch-screen ordering



# Discussion, Implications & Questions ...



## Thank-you ...