

Teaching Innovation Using Online Strategies

Academic Board

May 1, 2014



UNIVERSITY OF
TORONTO

Online Learning Strategy

- Flexible learning to accommodate student choice
- Active learning online to engage students
- Focus on introductory and gateway courses

Pilots & Grants

- OUCI
- MTCU
- Gates

Tools & Resources

- Portal Tools
- Webinars
- Video Content

Faculty Development

- Course Design
- Online Pedagogy

Instructor Community

- Community of Practice
- Researchers

Flexible Learning



Online
Courses

Hybrid
Courses

Inverted
Classroom

MOOCs

Innovation

Research

Introduction to Computer Programming

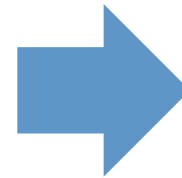
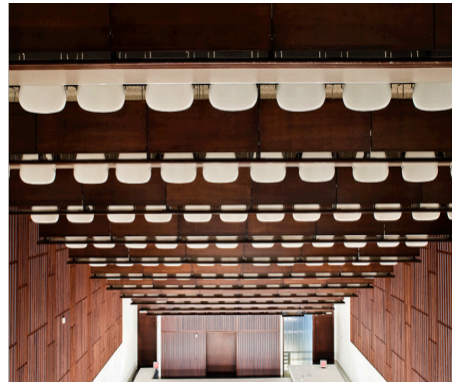
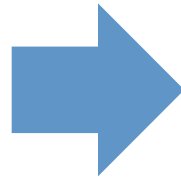
Jennifer Campbell
Faculty of Arts & Science
Dept. of Computer Science

MOOCs

CSC108
Inverted

CSC108
Online

coursera



Fall 2012,
Winter 2013

Winter 2013
(ongoing)

Coming in
Fall 2014!

Reinventing the way we teach

- **INVERTED**
 - Students prepare *before* attending lecture
 - watching videos, completing exercises
 - Students work on exercises *during* lecture
 - TAs are present during lecture
 - Weekly online exercises instead of weekly closed labs
 - The TA resources are used in lecture instead
- **ONLINE**
 - Next challenge: moving lecture exercises and support online

Development of a new tool


- PCRS: Programming Course Resource System

Week 4 Exercise

This quest is the week 4 exercise. There are three challenges in this quest, and each challenge involves one or more problems. Topics covered in this quest include Boolean expressions, if statements, string methods, and looping over strings.


booleans

This challenge involves Boolean expressions. Click on each problem to attempt it.



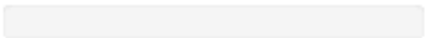
If statements

This challenge involves if statements. Click on each problem to attempt it.



Looping over strings

This challenge involves writing for loops over strings. Click on each problem to attempt it.



Outcomes: pass/fail/drop, learning

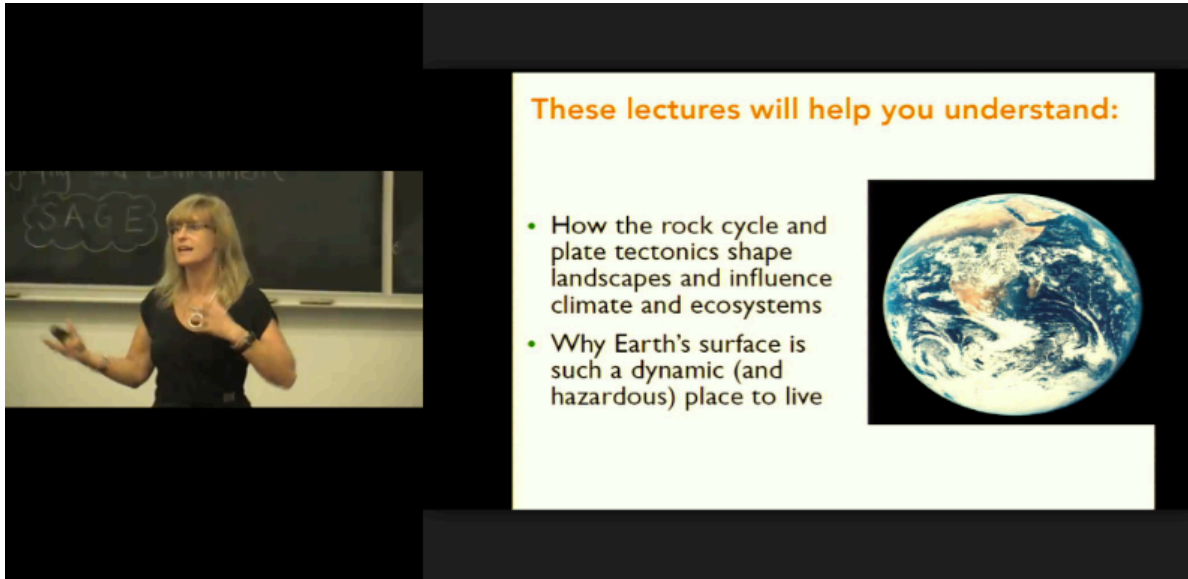
- Compared to students in a traditional offering of CSC108, students in inverted CSC108 found course to be:
 - more difficult,
 - about the same workload
 - as enjoyable
- Pass, drop, and fail rates were not significantly different.
- Final exam scores rose 8%
 - Exams of comparable difficulty as independently rated by two senior lecturers not teaching course

Environment 100 and Restoration Ecology

Monika Havelka


University of Toronto Mississauga
Geography Department
Programs in Environment

Along the continuum

A woman with blonde hair, wearing a black top, is standing in a classroom and presenting. Behind her is a chalkboard with the word "SAGE" written on it. A semi-transparent slide is overlaid on the right side of the image. The slide has a white background with orange text at the top and a blue header at the bottom. The slide content includes a title, two bullet points, and an image of Earth from space.

These lectures will help you understand:

- How the rock cycle and plate tectonics shape landscapes and influence climate and ecosystems
- Why Earth's surface is such a dynamic (and hazardous) place to live

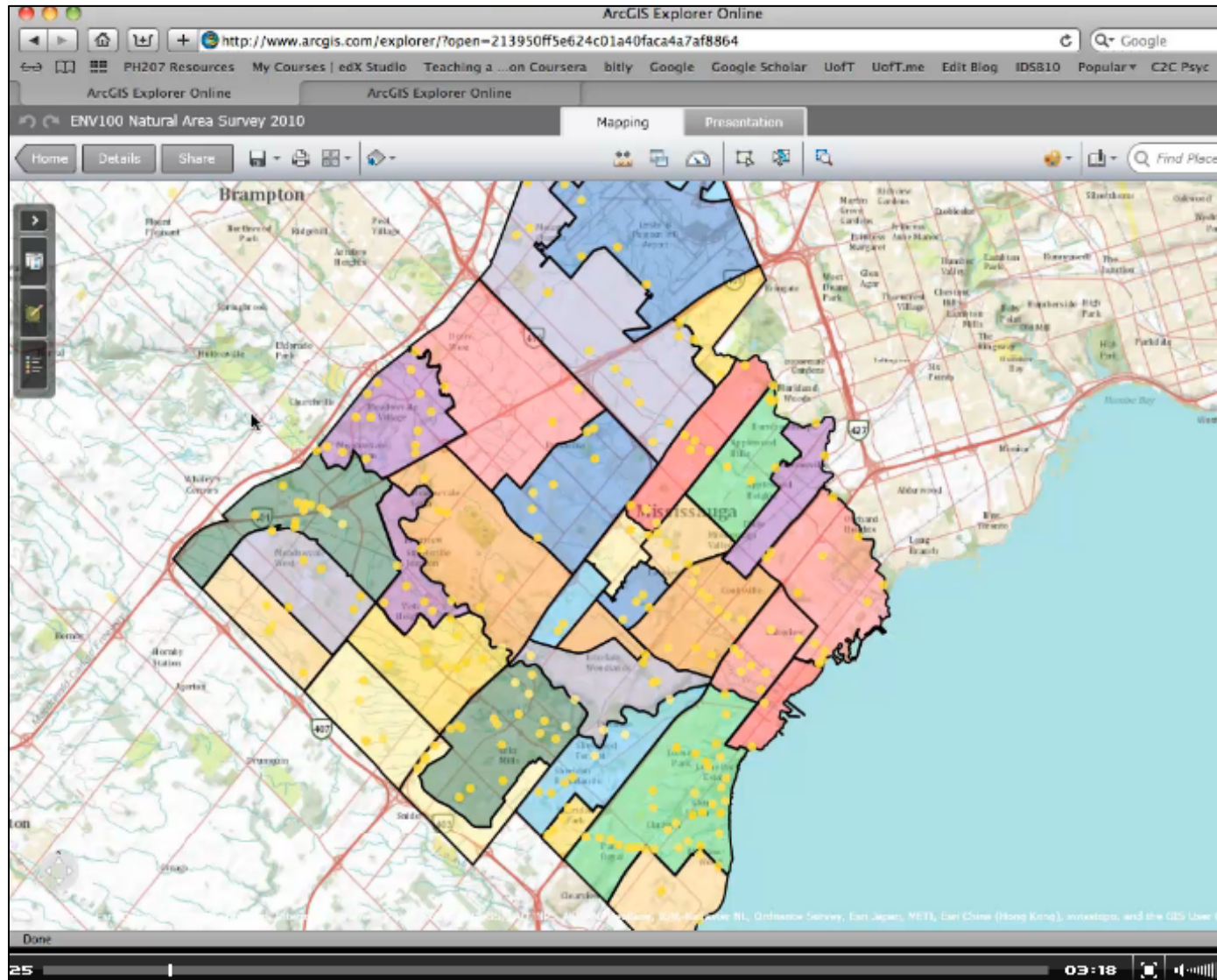


Presentation Info

Friday September 20
Prof. Havelka
9/20/2013 1326 views

- inverted classroom (ENV495)
- in-class and online model (ENV100)
- fully on-line (summer ENV100)

Open Data and GIS Assignment



- Relevant
- Authentic
- Engaging

Online chats create community

[Drew Danyluk joined the session] Jan 30, 2014 7:26:13 PM EST

Monika Havelka: There is convergence where the two Hadley cells meet; where the Hadley and Ferrel cells meet there is divergence... what happens where the Ferrel and polar cells meet? Jan 30, 2014 7:26:54 PM EST

Monika Havelka: anyone? Jan 30, 2014 7:27:22 PM EST

Muhammad Qureshi: convergence? Jan 30, 2014 7:27:23 PM EST

Monika Havelka: yes!! Jan 30, 2014 7:27:27 PM EST

Monika Havelka: exactly! Jan 30, 2014 7:27:31 PM EST

Muhammad Qureshi: oh Jan 30, 2014 7:27:32 PM EST

Vanessa Marchese: together they create precipitation right? Jan 30, 2014 7:27:57 PM EST

Monika Havelka: So, there is a LOW where the Hadley cells meet; a HIGH where the Hadley meets the Ferrel, and a LOW where the Ferrel meets the polar cells. Make sense? Jan 30, 2014 7:28:16 PM EST

Monika Havelka: Yes, Vanessa -- although that will be a much great effect at the equator -- why? Jan 30, 2014 7:28:43 PM EST

Vanessa Marchese: because the air is warmer at the equator?? Jan 30, 2014 7:29:08 PM EST

Monika Havelka: Perfect -- you got it!! Jan 30, 2014 7:29:16 PM EST

Monika Havelka: :D Jan 30, 2014 7:29:19 PM EST

Vanessa Marchese: awesome Jan 30, 2014 7:29:22 PM EST

Monika Havelka: Muhammad -- does that make sense? Jan 30, 2014 7:29:39 PM EST

Muhammad Qureshi: yes thank you Jan 30, 2014 7:30:00 PM EST

Monika Havelka: great :) Jan 30, 2014 7:30:08 PM EST

Students Report:

ENV495: “I love the webcasts, I wish every course were taught that way.”

- 92% favourable impression of course
- 76% felt their problem-solving skills had improved
- 68% felt their critical-thinking skills had improved
- 64% felt their teamwork skills had improved

Students Report:

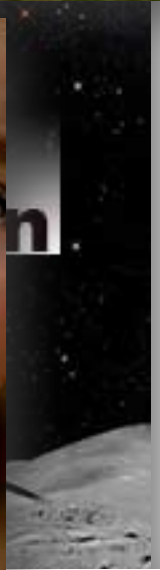
ENV100: survey of 239 students (summer 2013) – 232 responses:

- Online: convenience AND learning style
- Mature students, full-time employment, outside of Canada...
- 46% specifically cited online format as a motivation to take the course

Introduction to Psychology I & II

Steve Joordens

University of Toronto Scarborough
Department of Psychology






	Circa 1998	Circa 2003	Circa 2011	Circa 2014
	MC Mid (45%) MC Final (55%)	MC Mid (38%) MC Final (40%) peerScholar (12%) webOption	MC Mid (35%) MC Final (40%) peerScholar (12%) Wikipedia (3%) webOption	mTuner1 (4%) mTuner2 (6%) mTuner3 (8%) mTuner4 (10%) peerScholar (12%) Digital Labcoat (7%) Experimental Participation (3%) Cumulative Final (50%) webOption
n	4 x ~220	~ 1300	~ 1700	~ 1900

WEBOPTION LECTURECASTING

[Home](#) » [My Courses](#) » Winter 2013 - PSYA02H3

Lectures [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#) [20](#) [21](#) [22](#) [23](#) [24](#) [25](#)

Lecture 08



Psychology Aoz: Lecture 8
**Development:
Social Development / Parenting**

Musical Choice: Perfect Mother (Basia)
Poker Face (Lady Gaga)

03:47 / 48:50

Generate Bookmark

<http://lecturecast.utsch.utoronto.ca/?id=f8856d11ff&l=8&p=a>

Generate, copy, and paste bookmarks in to a separate document to refer to parts of this lecture.

702 314 hits on individual lecturecasts since September 10, 2012

Tomorrow is created here.

© University of Toronto Scarborough
1265 Military Trail, Toronto, ON, Canada, M1C 1A4

[A-Z Index](#) | [Maps](#) | [Contact Us](#) | [Employment](#) | [Privacy Policy](#)



A screenshot of the PeerScholar web application. The browser address bar shows "www.peerscholar.ca/main#/course/7c=871". The page header includes the PeerScholar logo, the date "Fri 11: 26 AM", and navigation links for "Messages", "Manage", "Library", "Steve Joordens", and "Logout". Below the header is a navigation menu with "DASHBOARD", "PSYA04H3 2012", "HEQCO", "PSYA02 2013", "DEMO CLASS", and "ADD A CLASS". The main content area is titled "Demo Class" and includes tabs for "ASSIGNMENTS", "STUDENTS & GRADES", and "REPORTS". A filter dropdown is set to "Show All (1)" and a "Sort by" dropdown is set to "Create Phase". A green button labeled "ADD AN ASSIGNMENT" is visible. The main assignment card is titled "Putting the Science in Fiction (ON)" and is in "Demo Class" mode. It features a progress bar with four stages: "Create", "Assess", "Reflect/Revise", and "Evaluate". The "Assess" stage is highlighted in green. Below the progress bar, a table shows the timeline for each stage:

Stage	Open	Close	Start	End	Start	End
Create	13 April 2013	17 April 2013	12:05 am	11:55 pm	-	-
Assess	-	-	18 April 2013	20 April 2013	12:05 am	11:55 pm
Reflect/Revise	-	-	22 April 2013	25 April 2013	12:05 am	11:55 pm
Evaluate	-	-	-	-	-	-

Learning Outcomes:

Critical and Creative Thought, Expressive and Receptive Communication, Collaboration, Meta Cognition

Students first create a written argument

Then assess the work of 6 peers

Then see and assess the comments on their work and revise it accordingly

Finally they reflect on the process



Higher Education
Quality Council
of Ontario

An agency of the Government of Ontario

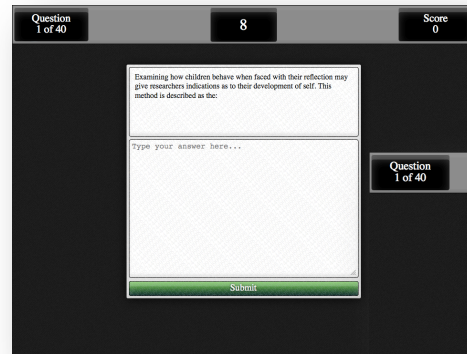
Taking Learning Outcomes to the Gym: An Assignment- Based Approach to Developing and Assessing Learning Outcomes

Steve Joordens, Dwayne Paré
and Lisa-Marie Collimore
Advanced Learning Technologies Lab
University of Toronto Scarborough



Learning Outcomes:

Course Content, Meta-Cognition,
Critical Thinking

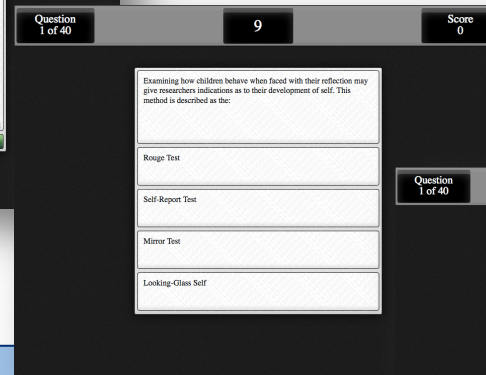


Question 1 of 40 8 Score 0

Examining how children behave when faced with their reflection may give researchers indications as to their development of self. This method is described as the:

Type your answer here...

Submit



Question 1 of 40 9 Score 0

Examining how children behave when faced with their reflection may give researchers indications as to their development of self. This method is described as the:

Rouge Test

Self-Report Test

Mirror Test

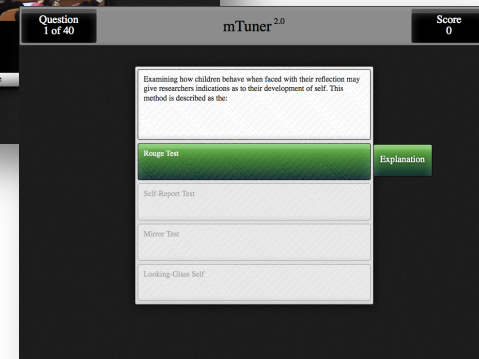
Looking-Glass Self



Question 1 of 40 mTuner 2.0 Score 0

Hint

Close



Question 1 of 40 mTuner 2.0 Score 0

Examining how children behave when faced with their reflection may give researchers indications as to their development of self. This method is described as the:

Rouge Test Explanation

Self-Report Test

Mirror Test

Looking-Glass Self

Students first see a question and
Must type what they believe to be the answer

If correct, the score 2, and see a short explanation

If incorrect, they are brought either to the eBook content or to
the lecture for review and then they get a second chance ... for
1 point

They are always told the right answer and shown the
explanation before moving on

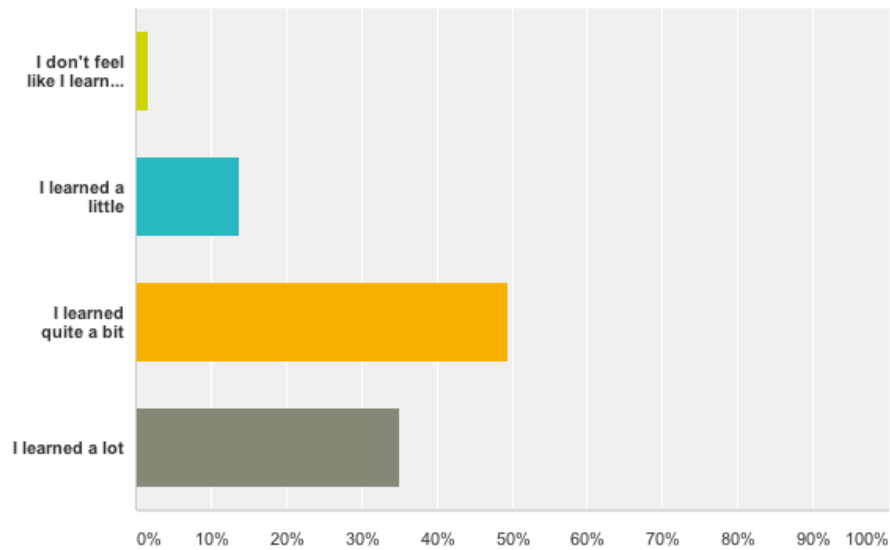
Q9

Customize

Export

How much do you think you learned while doing these assessments? That is, did you end the assessment feeling like you knew the material better than when you started and, if so, how big of a change was there?

Answered: 1,223 Skipped: 26



Answer Choices	Responses
▼ I don't feel like I learned that much, if anything	1.64% 20
▼ I learned a little	13.74% 168
▼ I learned quite a bit	49.55% 606
▼ I learned a lot	35.08% 429
Total	1,223

Digital Labcoat.

Survey Analyze Share

State Your Hypothesis

Variable 1 ? Variable 2

Height ? Enjoyment of Risks

I predict that height will be positively correlated with enjoyment of risks.

Results

ID#	Height X	Enjoyment of Risks Y	XY	XX	YY
1	165	7	1155	27225	49
7	160	3	480	25600	9
13	158	3	474	24964	9
15	163	3	489	26569	9
17	163	3	489	26569	9
24	157	6	942	24849	36
26	172	3	516	29584	9
27	170	7	1190	28900	49
28	166	2	332	27556	4
29	180	5	900	32400	25
Σ	1654	42	6967	274016	208

Hypothesis: _____
I predict that height will be positively correlated with enjoyment of risks.

Calculations:

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

r = 202 / 1185.0333286
r = 0.17045934017
r_{crit} = 0.632
NOT SIGNIFICANT

State Your Result: _____

Learning Outcomes:
Scientific Literacy,
Mathematic Literacy,
Critical Thought,
Communication

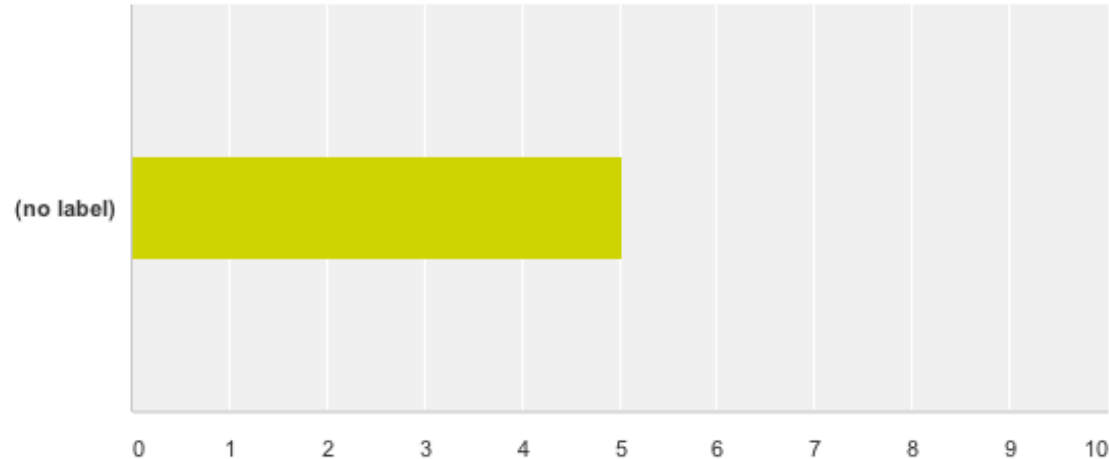
Students first mine their own data in search of an interesting finding ... which they then “market”

Students then attempt to “replicate” other interesting effects

They then provide or vote for theoretical interpretations of the most interesting and replicable findings

I gained a much better sense of the scientific process. Concepts like sampling, replication, hypotheses and third variables made a lot more sense than they did after just reading the text

Answered: 1,207 Skipped: 42



	Strongly Disagree	(no label)	(no label)	Neutral	(no label)	(no label)	Strongly Agree	Total	Average Rating
(no label)	2.15% 26	3.07% 37	7.04% 85	20.30% 245	28.00% 338	23.28% 281	16.16% 195	1,207	5.03

Questions and Discussion

