

**“IT [MY RESEARCH]
WOULD TAKE PLACE
AT 11:50PM”**

**Constructing a Realistic Simulation to Study
Online Information Evaluation for School Projects**

Today's Presenters

**Amy Buhler,
Engineering Librarian
University of Florida**



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Research Support Specialist
OCLC Research**



Point of Selection Behavior

Helpfulness

Citability

Credibility

Container

4th Grade → Graduate School

What is a simulation?

“...behavioral simulations model certain aspects of the social environment yet maintain the element of human choice. This type of simulation requires that involvement of human participants in the simulation itself.”

Gist et.al., p. 253

LIS Uses of Simulation



- Usability
- Systems Analysis
- Information Retrieval
- Training

Why we chose a simulation

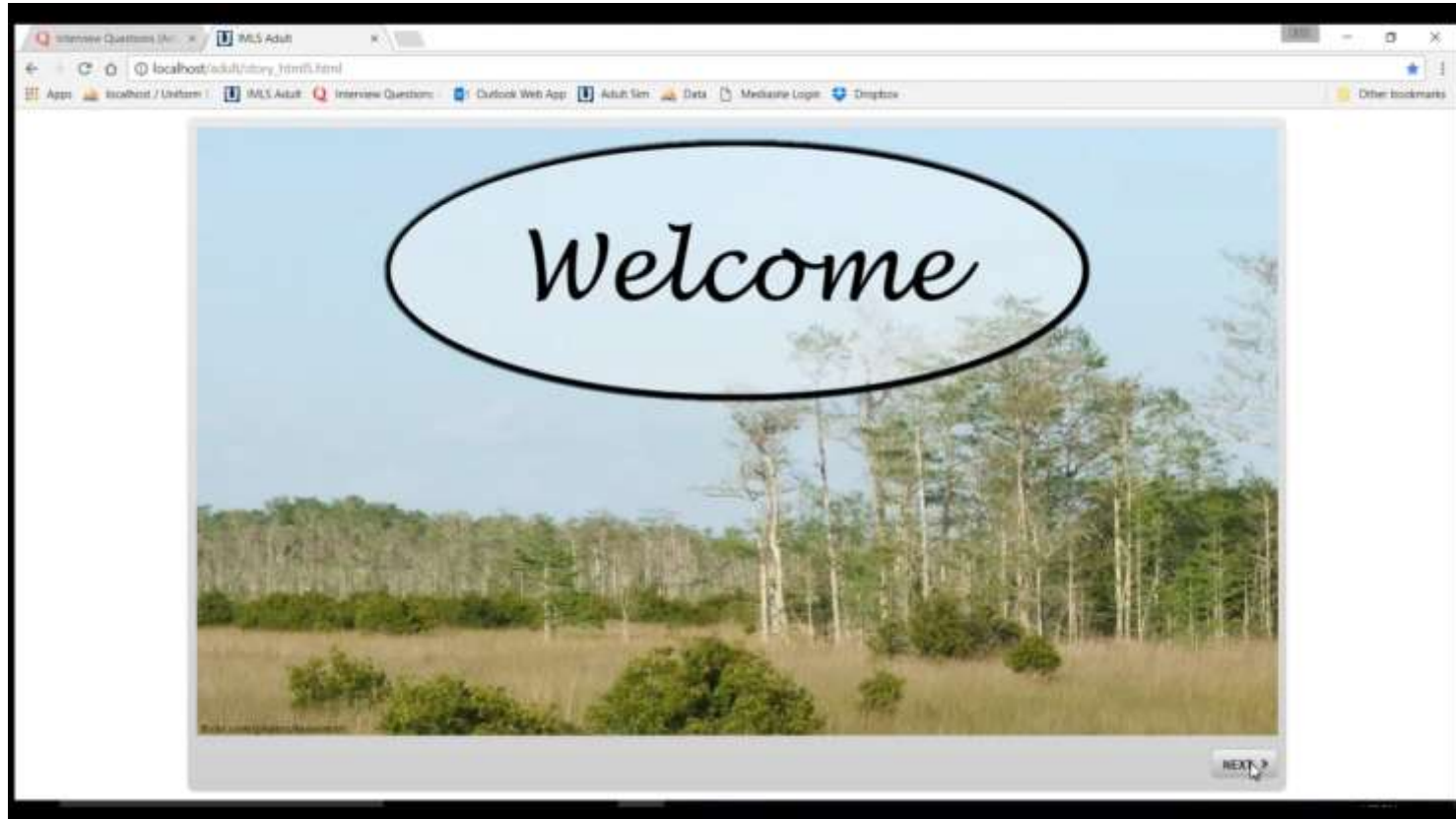


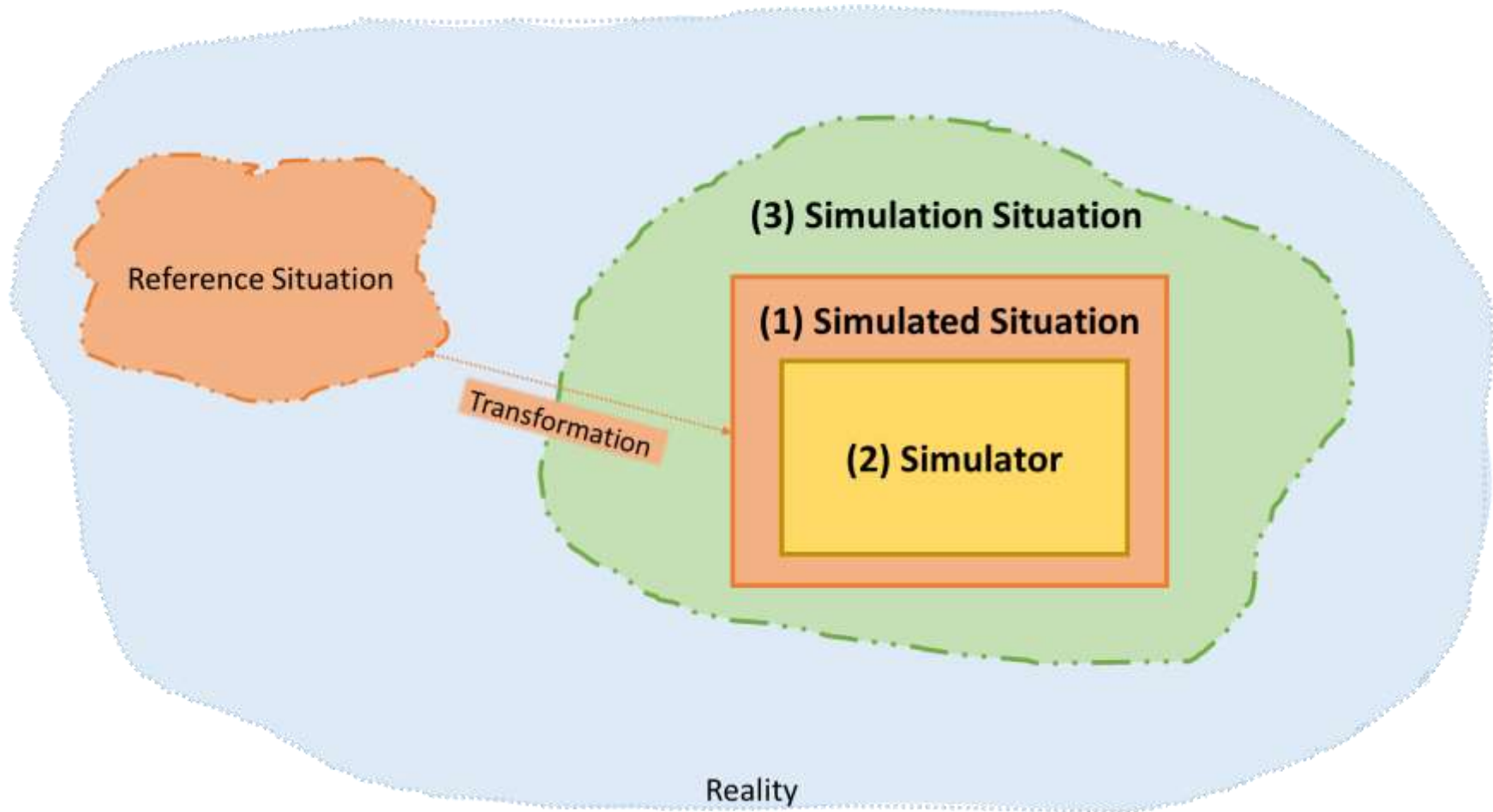
How real is real enough?

Weighing realism against data
collection

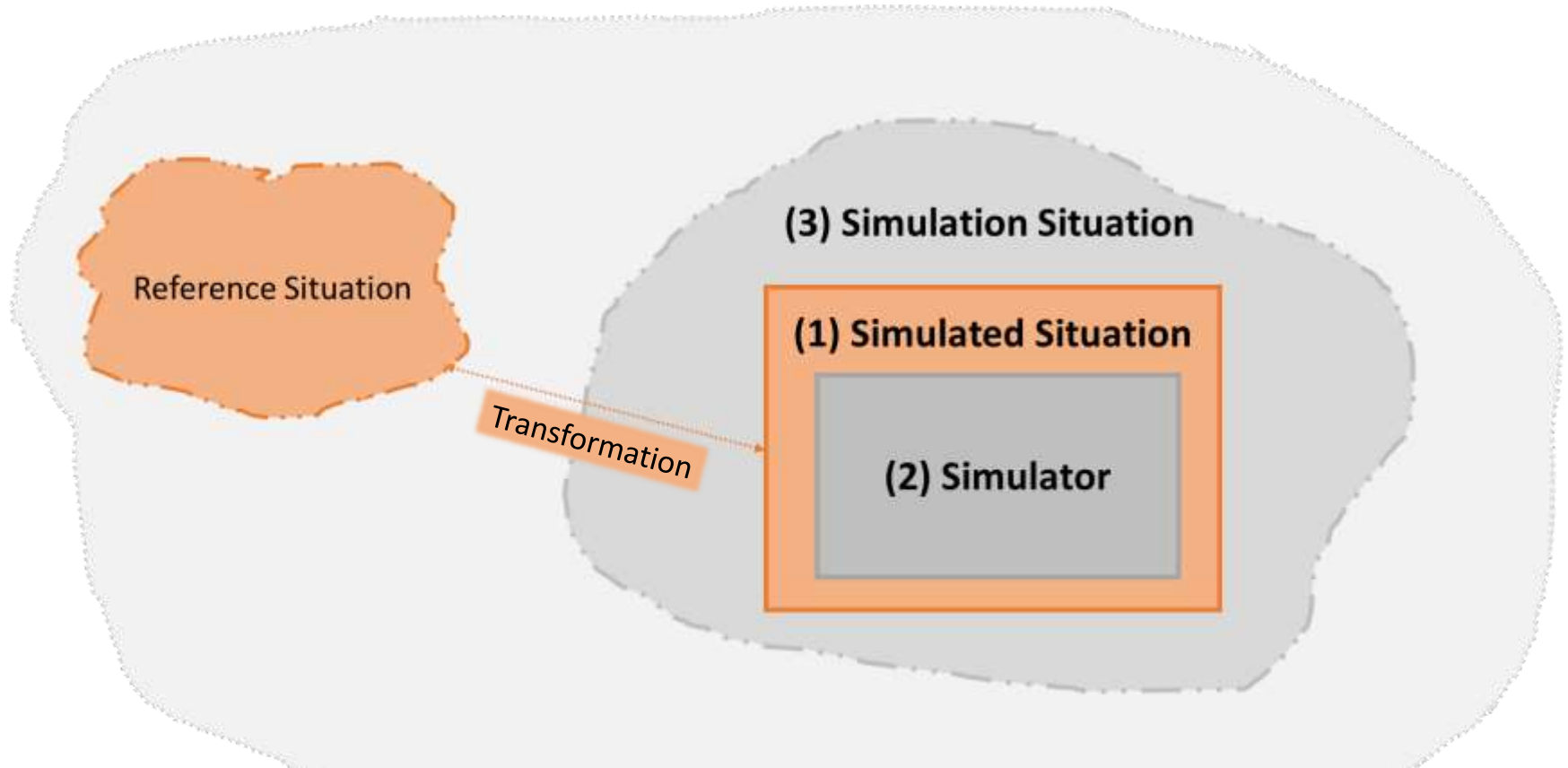


Intro to our simulation





(Adapted from Vidal-Gomel & Fauquet-Alekhine, 2016)



the replication of the category of situations being studied

Assignment Prompt

Research Prompt:

You have an assignment to write a science report that investigates the Burmese Python in the Everglades and describes the ways that this animal is affecting the Everglades habitat.



Research Prompt:

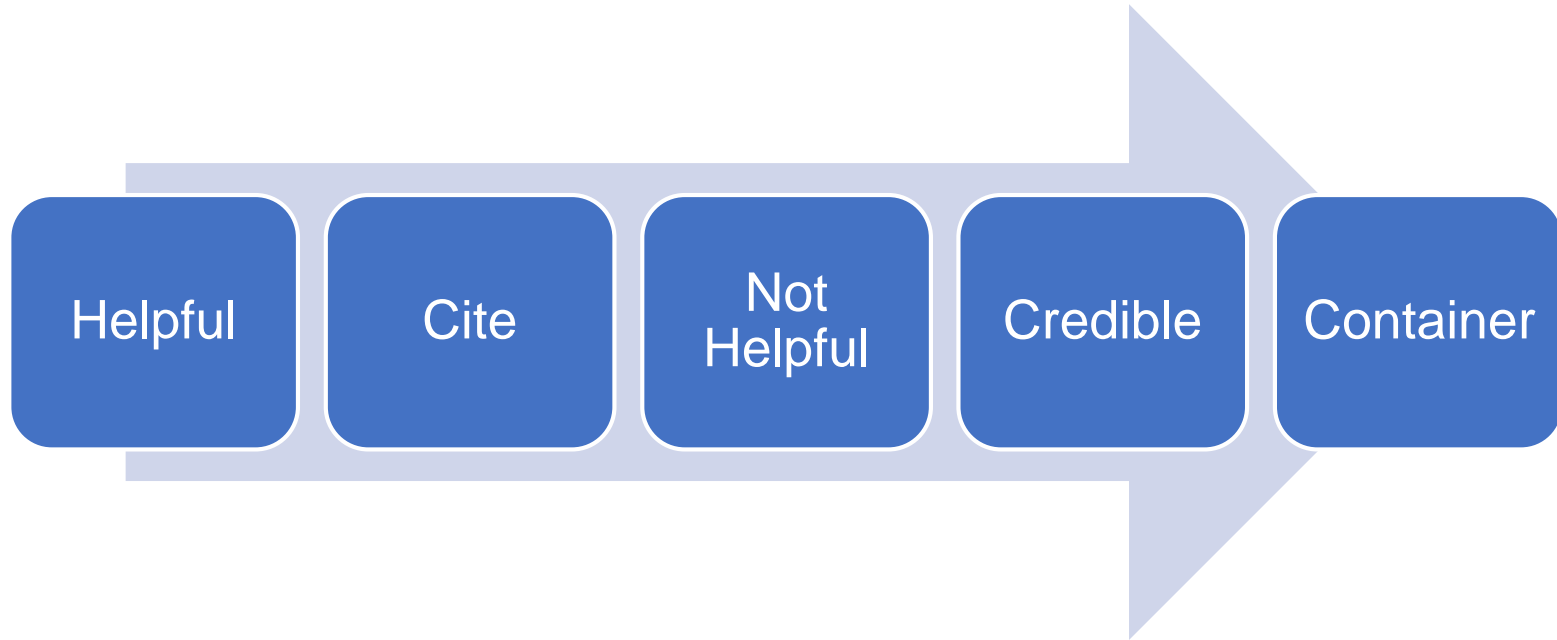
You are beginning a literature search for your Wildlife Issues final paper. You've decided to focus on the impact of the Burmese python (*Python molurus bivittatus*) to the biodiversity of the Florida Everglades.



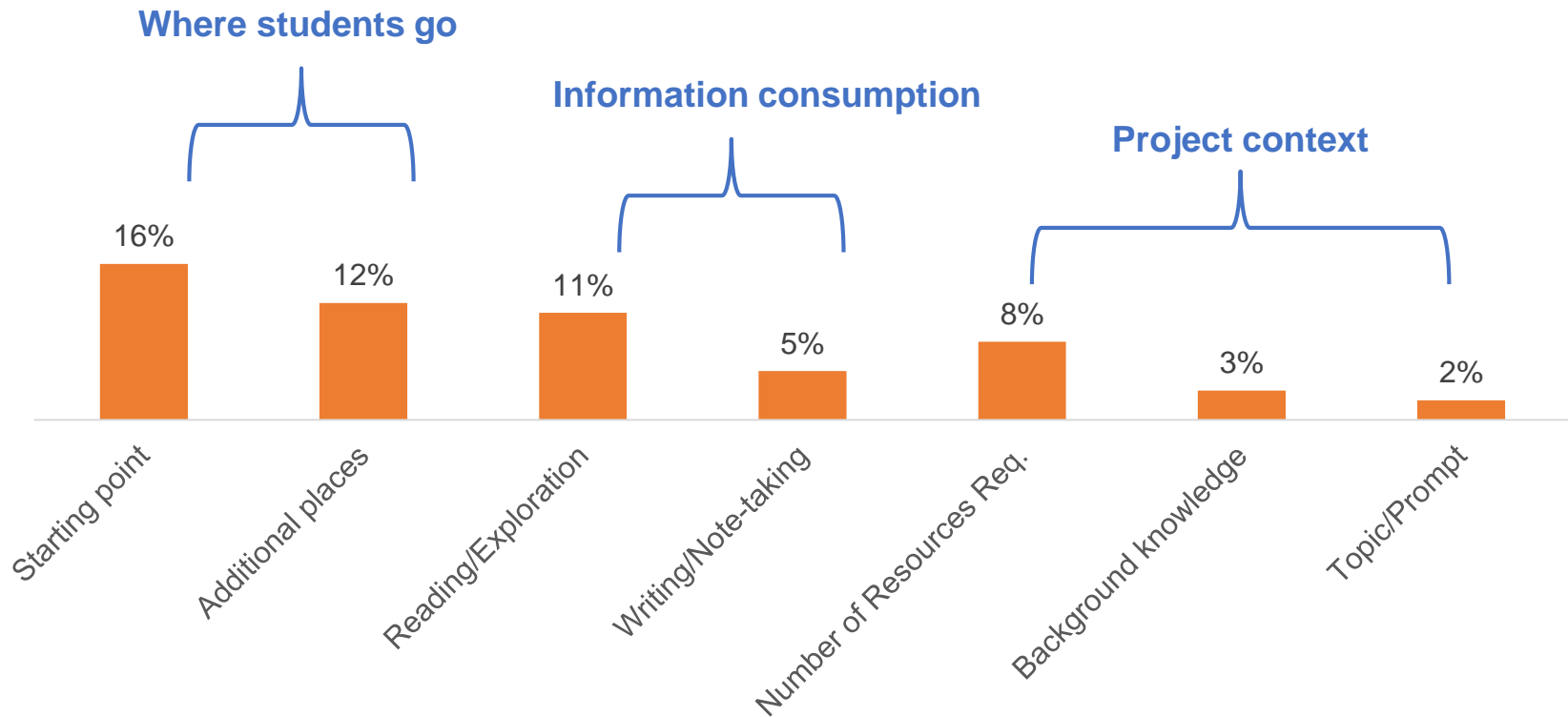
Choosing a system



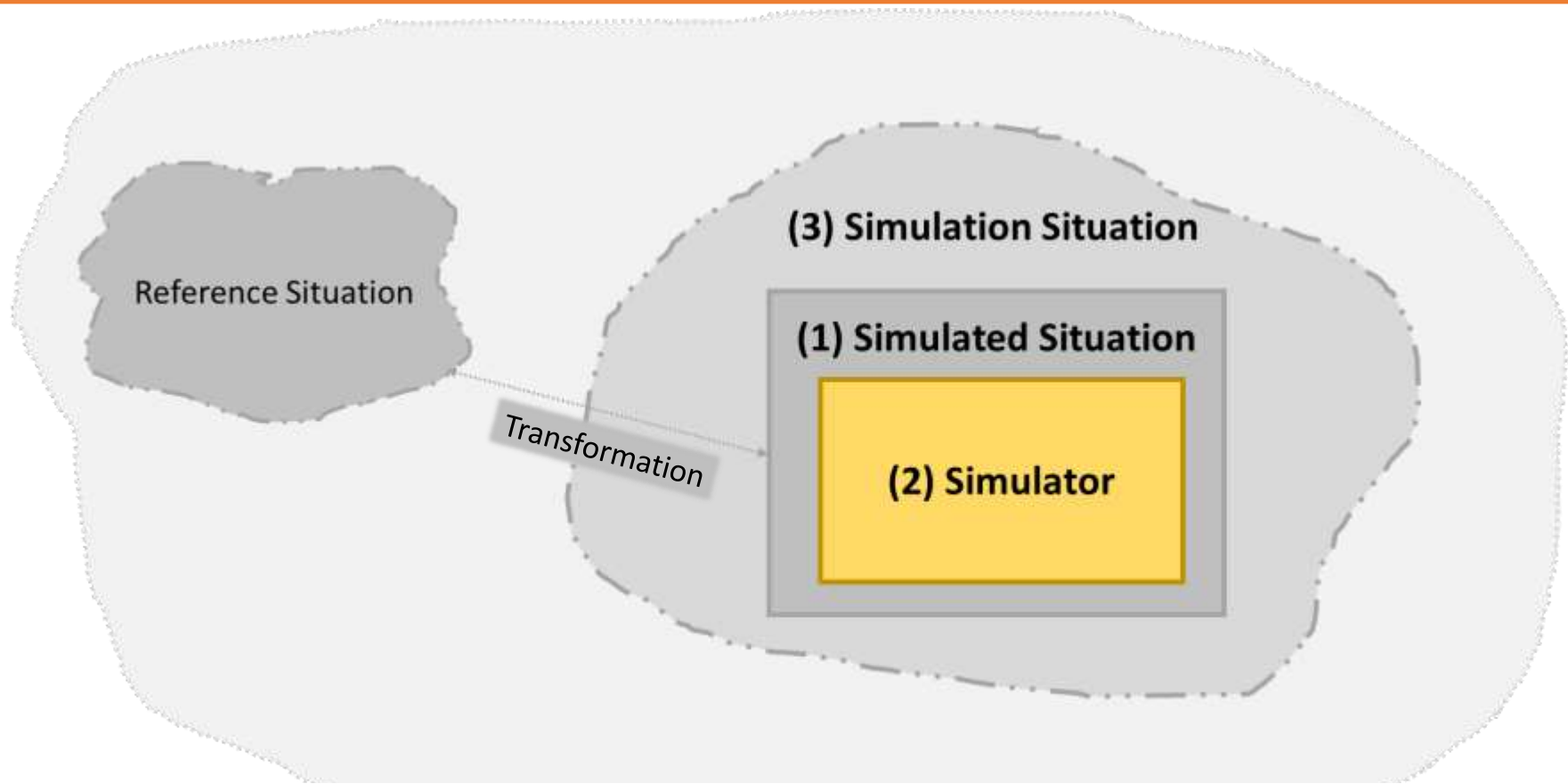
Designing Tasks



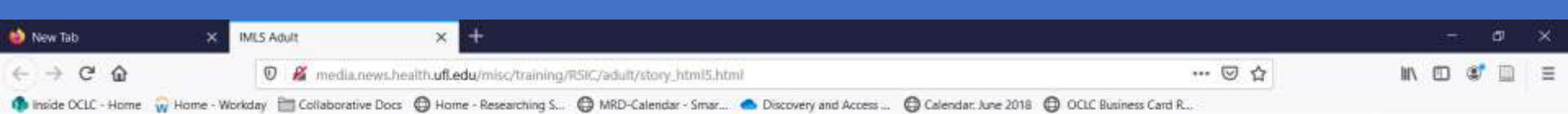
Student Feedback on Simulated Situation



N=175



the artifact that replicates a real-life phenomenon



Visual design

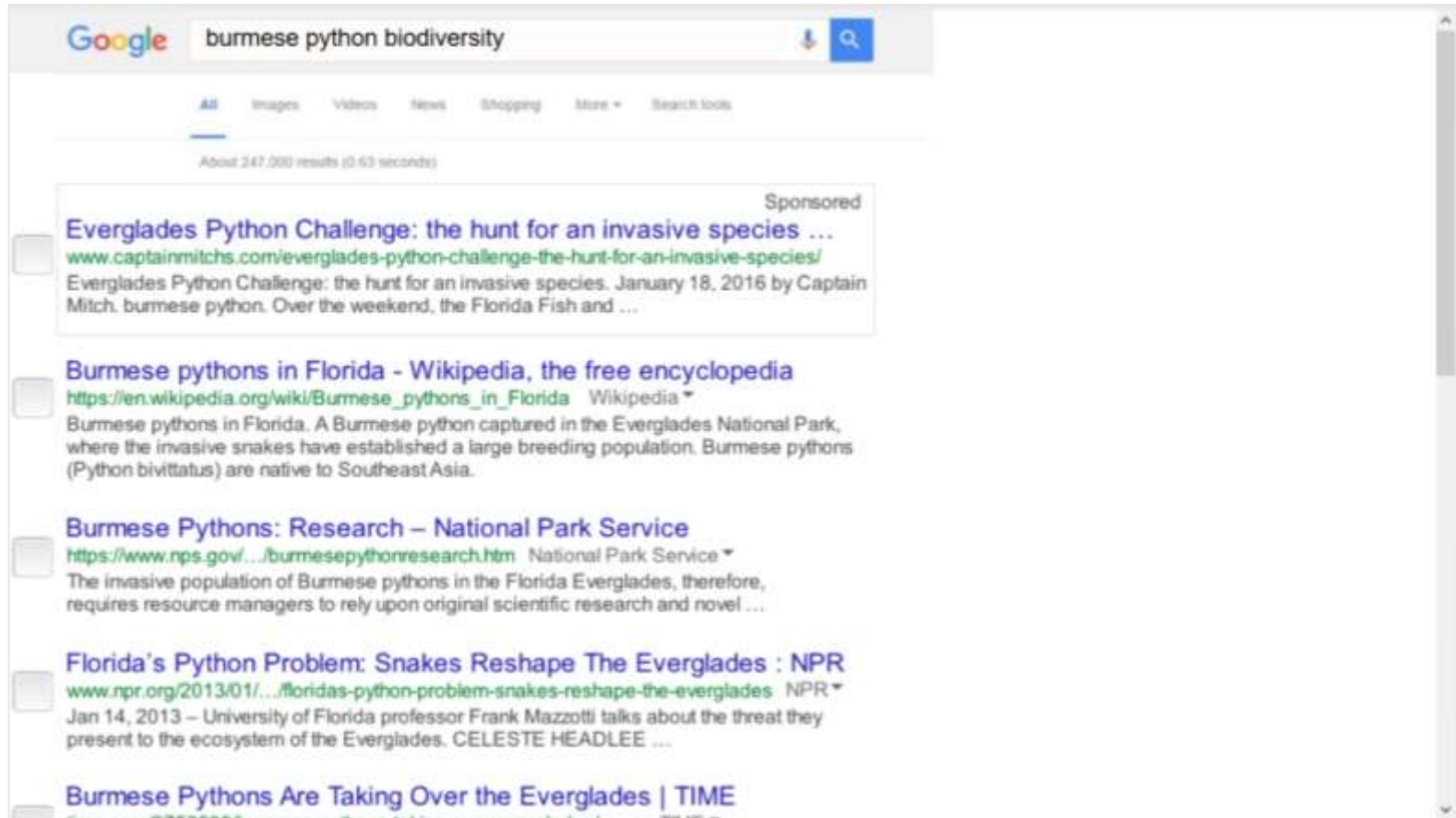
Google

burmese python biodiversity

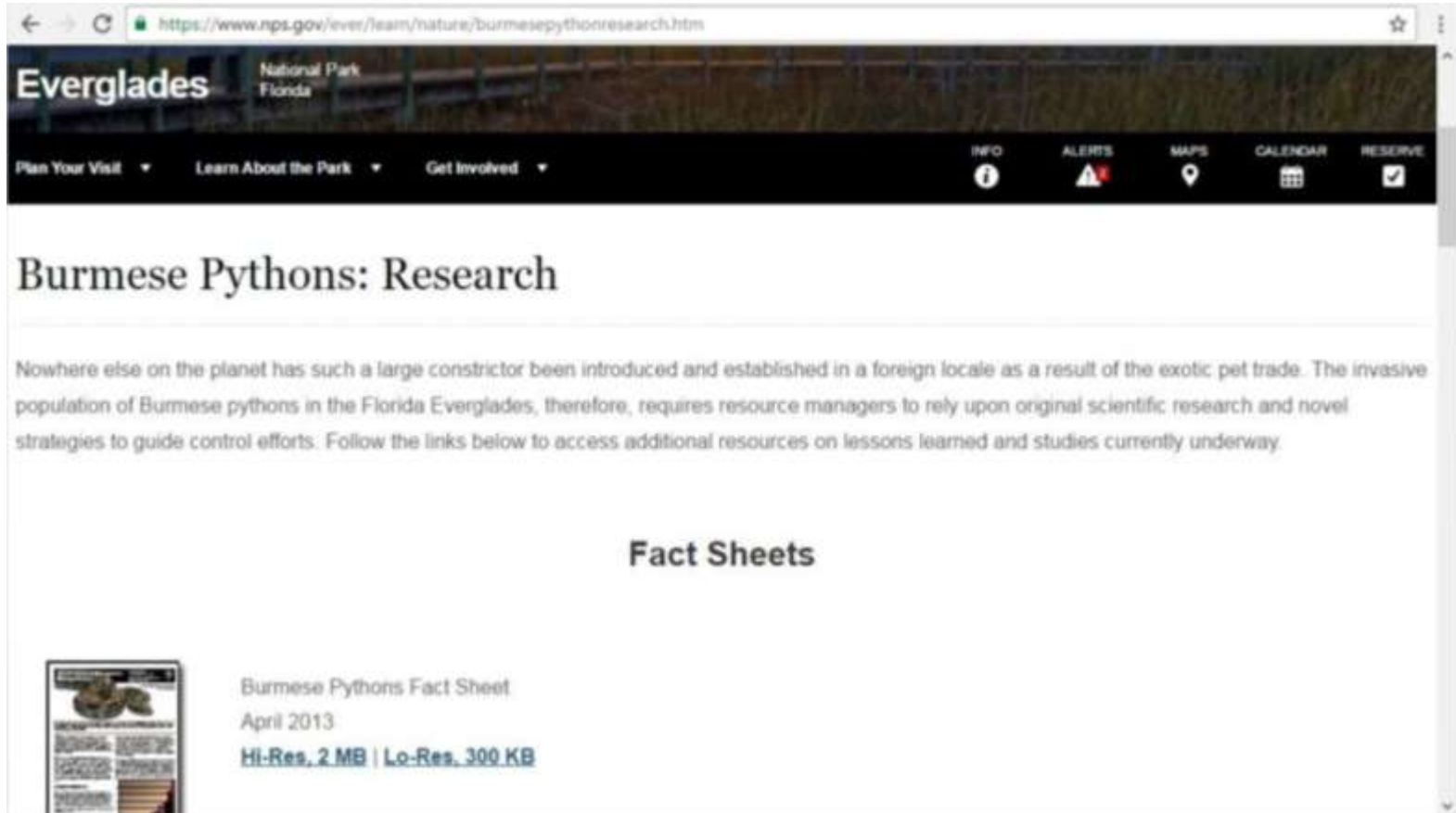
Google Search

I'm Feeling Lucky

Visual design - SERPs



Information resources



The screenshot shows a web browser window with the URL <https://www.nps.gov/ever/learn/nature/burmesepythonresearch.htm>. The page header features the 'Everglades National Park Florida' logo and a navigation bar with links: 'Plan Your Visit', 'Learn About the Park', 'Get Involved', 'INFO', 'ALERTS', 'MAPS', 'CALENDAR', and 'RESERVE'. The main heading is 'Burmese Pythons: Research'. Below it, a paragraph states: 'Nowhere else on the planet has such a large constrictor been introduced and established in a foreign locale as a result of the exotic pet trade. The invasive population of Burmese pythons in the Florida Everglades, therefore, requires resource managers to rely upon original scientific research and novel strategies to guide control efforts. Follow the links below to access additional resources on lessons learned and studies currently underway.' The section 'Fact Sheets' is highlighted, and a link for 'Burmese Pythons Fact Sheet' is provided, dated 'April 2013', with options for 'Hi-Res, 2 MB' and 'Lo-Res, 300 KB'. A small thumbnail image of the fact sheet is also visible.

Everglades National Park Florida


Plan Your Visit ▾ Learn About the Park ▾ Get Involved ▾

INFO ALERTS MAPS CALENDAR RESERVE

Burmese Pythons: Research

Nowhere else on the planet has such a large constrictor been introduced and established in a foreign locale as a result of the exotic pet trade. The invasive population of Burmese pythons in the Florida Everglades, therefore, requires resource managers to rely upon original scientific research and novel strategies to guide control efforts. Follow the links below to access additional resources on lessons learned and studies currently underway.

Fact Sheets

 Burmese Pythons Fact Sheet
April 2013
[Hi-Res, 2 MB](#) | [Lo-Res, 300 KB](#)

Triggers



Google burmese python biodiversity

All Images Videos News Shopping More + Search tools

About 247,000 results (0.63 seconds)

Everglades Python Challenge: the hunt for an invasi
www.captainmitchs.com/everglades-python-challenge-the-hunt-for-an-i
Everglades Python Challenge: the hunt for an invasive species. Januar Mitch. burmese python. Over the weekend, the Florida Fish and ...

Burmese pythons in Florida - Wikipedia, the free enc
https://en.wikipedia.org/wiki/Burmese_pythons_in_Florida Wikipedia
Burmese pythons in Florida. A Burmese python captured in the Evergle where the invasive snakes have established a large breeding populati (Python bivittatus) are native to Southeast Asia.

☒ **Burmese Pythons: Research – National Park Servic**
<https://www.nps.gov/.../burmesepythonresearch.htm> National Park Se
The invasive population of Burmese pythons in the Florida Everglades requires resource managers to rely upon original scientific research ar



☒ **Florida's Python Problem: Snakes Reshape The Ev**
www.npr.org/2013/01/.../floridas-python-problem-snakes-reshape-the
Jan 14, 2013 – University of Florida professor Frank Mazzotti talks ab present to the ecosystem of the Everglades. CELESTE HEADLEE ...



Burmese Pythons Are Taking Over the Everglades | TIME

Google burmese python biodiversity

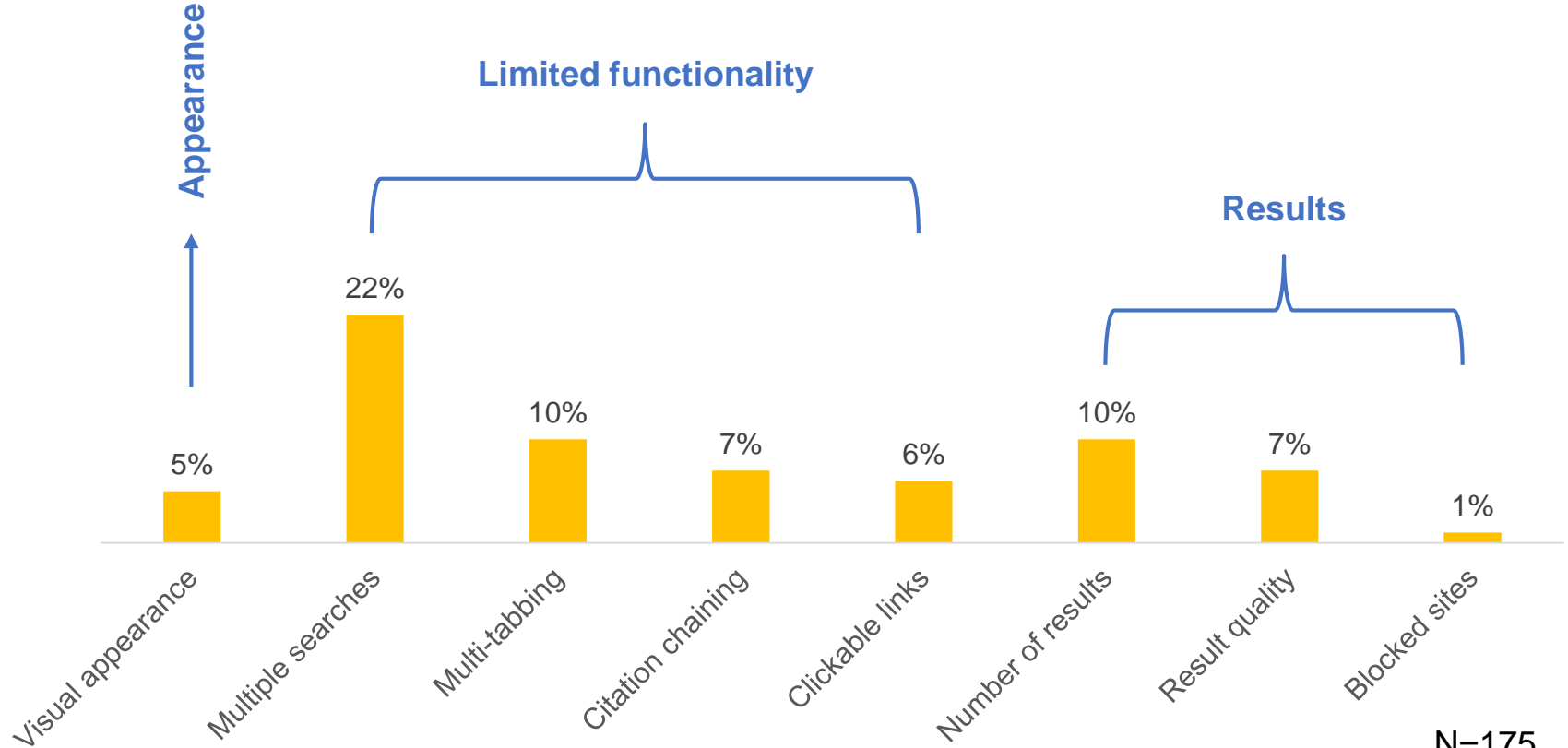
All Images Videos News Shopping More + Search tools

About 247,000 results (0.63 seconds)

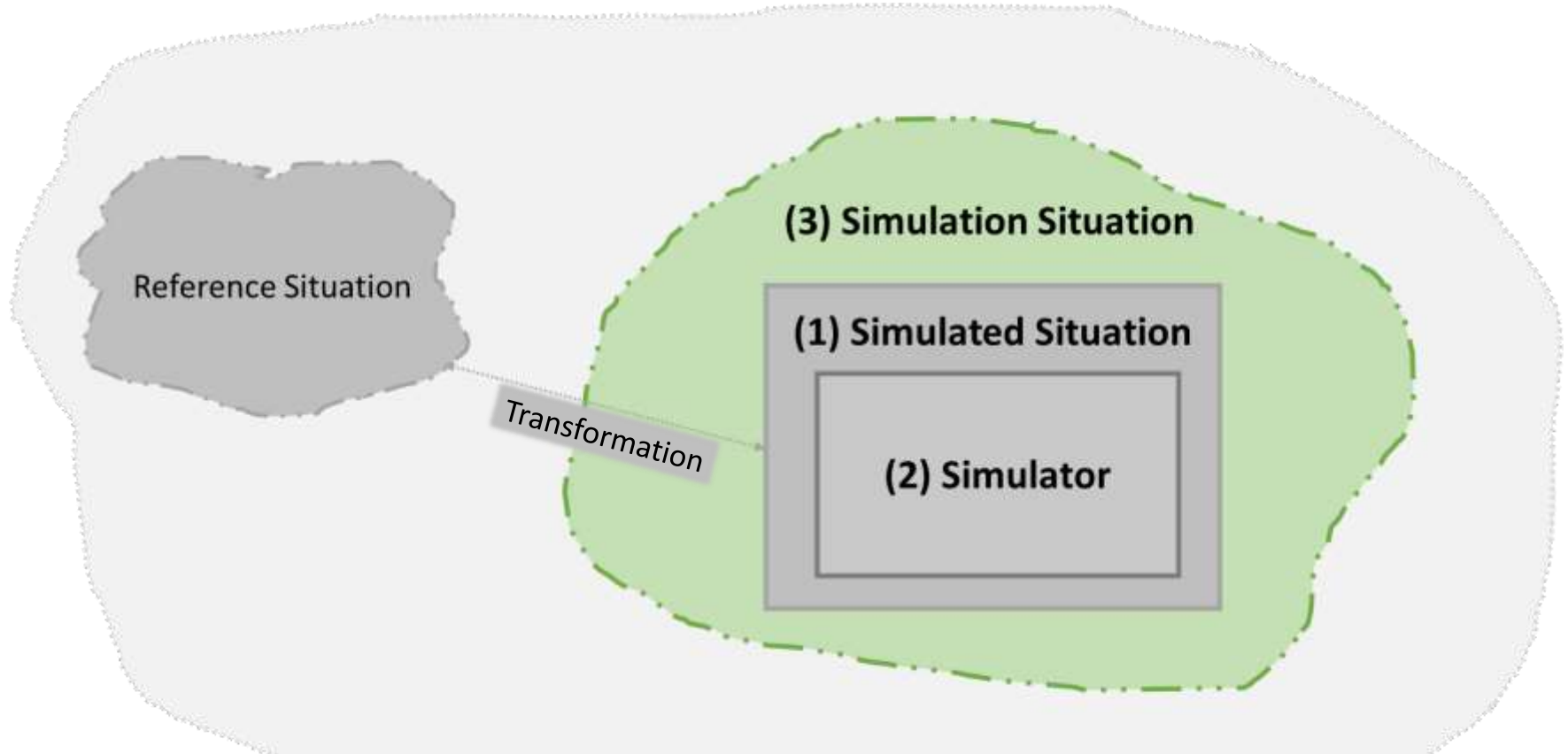
Burmese Pythons: Research – National Park Service
<https://www.nps.gov/.../burmesepythonresearch.htm> National Park Service 
The invasive population of Burmese pythons in the Florida Everglades, therefore, requires resource managers to rely upon original scientific research and novel ...

Florida's Python Problem: Snakes Reshape The Everglades : NPR
www.npr.org/2013/01/.../floridas-python-problem-snakes-reshape-the-everglades NPR 
Jan 14, 2013 – University of Florida professor Frank Mazzotti talks about the threat they present to the ecosystem of the Everglades. CELESTE HEADLEE ...

Student Feedback on Simulator



N=175



everything that happens while the simulation is conducted

Phases of Simulation Situation



Facilitator Materials

Think-aloud Prompts/Probes

In addition to reminding participants to think aloud when they becoming silent, be sure to give positive reinforcement when they are making detailed observations

- Tell me more about...
- Remember to talk out loud about your decisions...
- Remember to talk out loud...
- Remember to explain your thought processes as you are making your decisions...
- Tell me what you are looking at
- What was it about that resource that made you click on it?
- Why is that...?
- Ask for elaboration on any vague terms, such as “flashy” or “snaky”
- When participant identifies the container, be sure to prompt for explanation

- Try not to lead by asking too specific of a question

2. BRING TO SIMULATION

- ☐ Gift card
- ☐ Receipt verification slip
- ☐ Facilitator script
- ☐ Research prompt
- ☐ Citation management logos
- ☐ Tutorial printouts
- ☐ Laptop and bag
- ☐ Scrap paper for students
- ☐ USB flash drive
- ☐ Backup audio recorder
- ☐ Paper and Pencil
- ☐ Water and mints
- ☐ **PRIOR TO PARTICIPANT ARRIVAL:** Open [Mediasite](#)
- ☐ **PRIOR TO PARTICIPANT ARRIVAL:** Open Storyline
- ☐ **PRIOR TO PARTICIPANT ARRIVAL:** Open Qualtrics

3. DURING SIMULATION

- ☐ Click ‘Record’ on [Mediasite](#) on laptop
- ☐ Turn on backup audio recorder
- ☐ Conduct Pre-Interview
- ☐ Begin Simulation and Think Aloud
- ☐ Facilitator: note timestamp when any issues or glitches occur
- ☐ Conduct Post-interview

Think-Aloud Protocols

File Home Insert Design Transitions Animations Slide Show Review View Help Acrobat

Clipboard Slides Font Paragraph Drawing Editing Adobe Acrobat View Webex

10

11

12

13

14

Screen 12A-E(7)

Purpose: To determine whether students can determine/accurately identify container types.

Facilitator prompt:
These are (21) of your original search results. Select the container that you think best describes each item. To label each item, just drag the green tag from the right of the screen to the box below the resource. Please keep talking out loud as you complete the activity.

Make sure that only one tag is applied to each resource before the student moves to the next page. Tags that are actively applied will be italicized

Questions/comments:

Variables Collected: CNTNRSC (pre-selected subset of the resources only); CNTNR (pre-selected subset of the resources only)

Everglades Python Challenge: the hunt for an invasive species ...
www.captainmitch.com/everglades-python-challenge-the-hunt-for-an-invasive-species/
Everglades Python Challenge: the hunt for an invasive species. January 18, 2016 by Captain Mitch. burmese python. Over the weekend, the Florida Fish and ...

Burmese pythons in Florida - Wikipedia, the free encyclopedia
https://en.wikipedia.org/wiki/Burmese_pythons_in_Florida Wikipedia *
Burmese pythons in Florida. A Burmese python captured in the Everglades National Park, where the invasive snakes have established a large breeding population. Burmese pythons (Python bivittatus) are native to Southeast Asia.

Burmese Pythons Are Taking Over the Everglades | TIME
time.com/3752598/burmese-pythons-taking-over-everglades/ TIME *
Mar 20, 2015 - But sometime over the past few decades, Burmese pythons began appearing in Everglades National Park in south Florida. The snakes were ...

Blog Book
Conference Proceeding Journal
Magazine News
Preprint Article Website

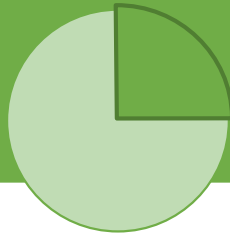
Slide 12 of 16

Display Settings 32%

Interviews

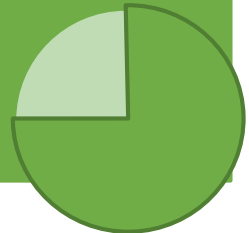
- Library interaction
- # of research projects
- Last research topic
- Device use
- School social media use

Pre-Simulation

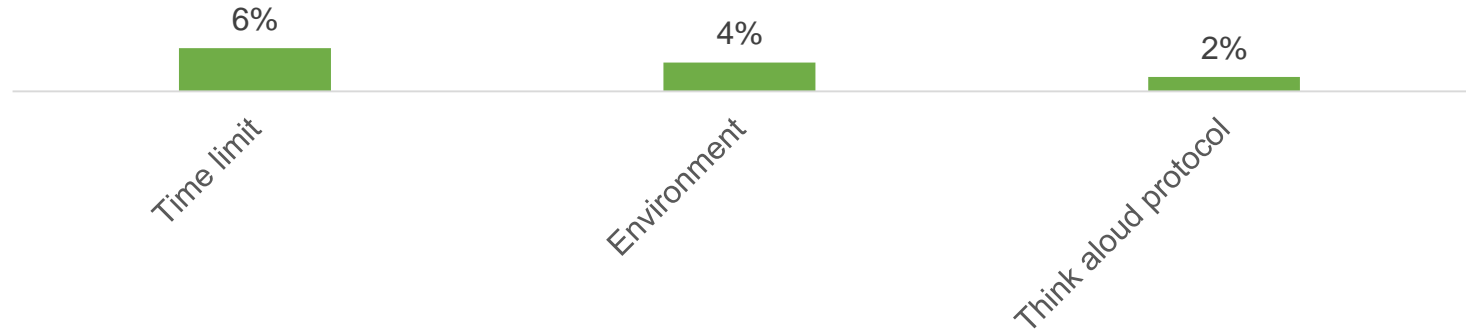


- Confidence
- Care
- Container

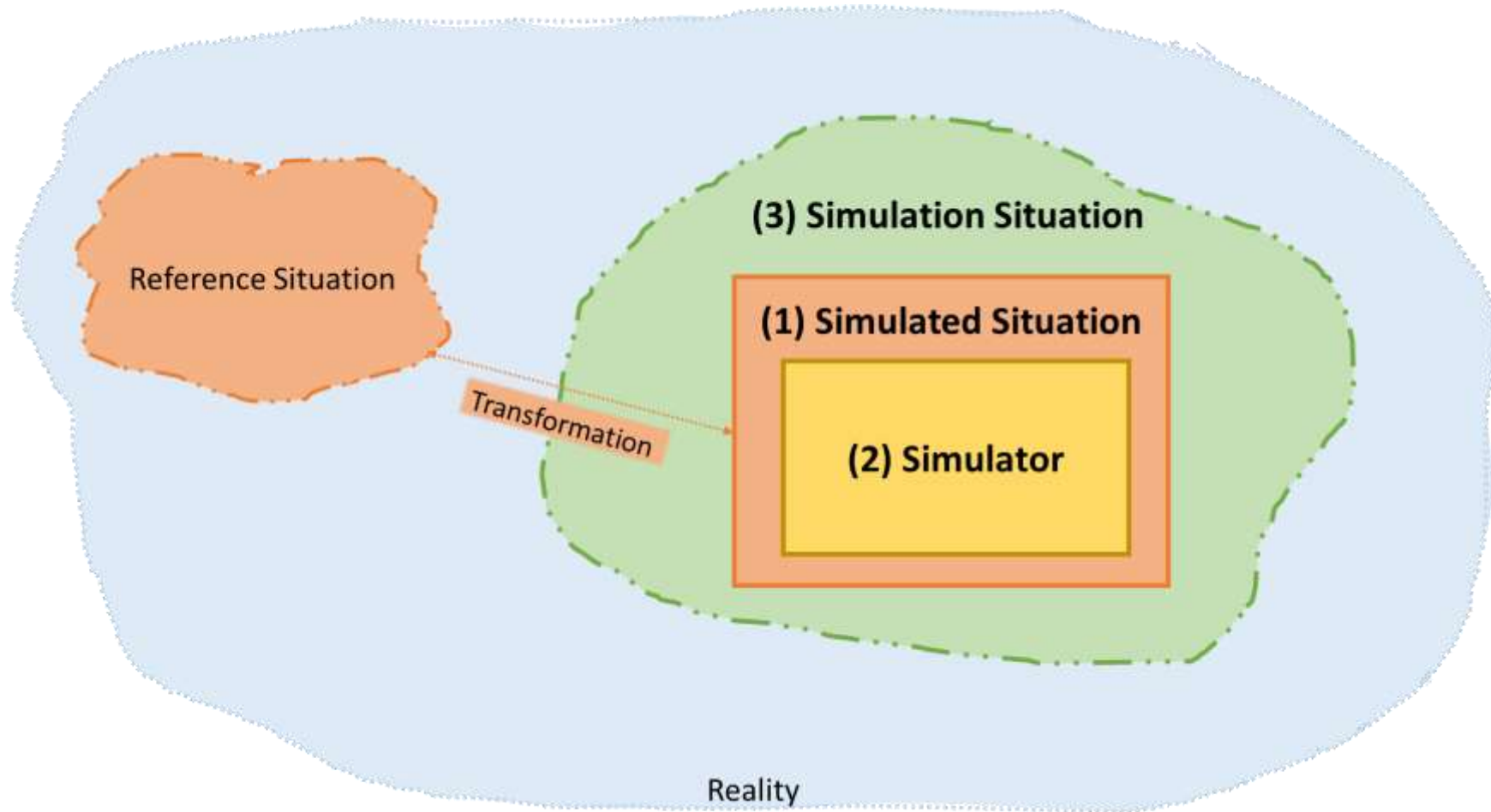
Post-Simulation



Student Feedback on Simulation Situation

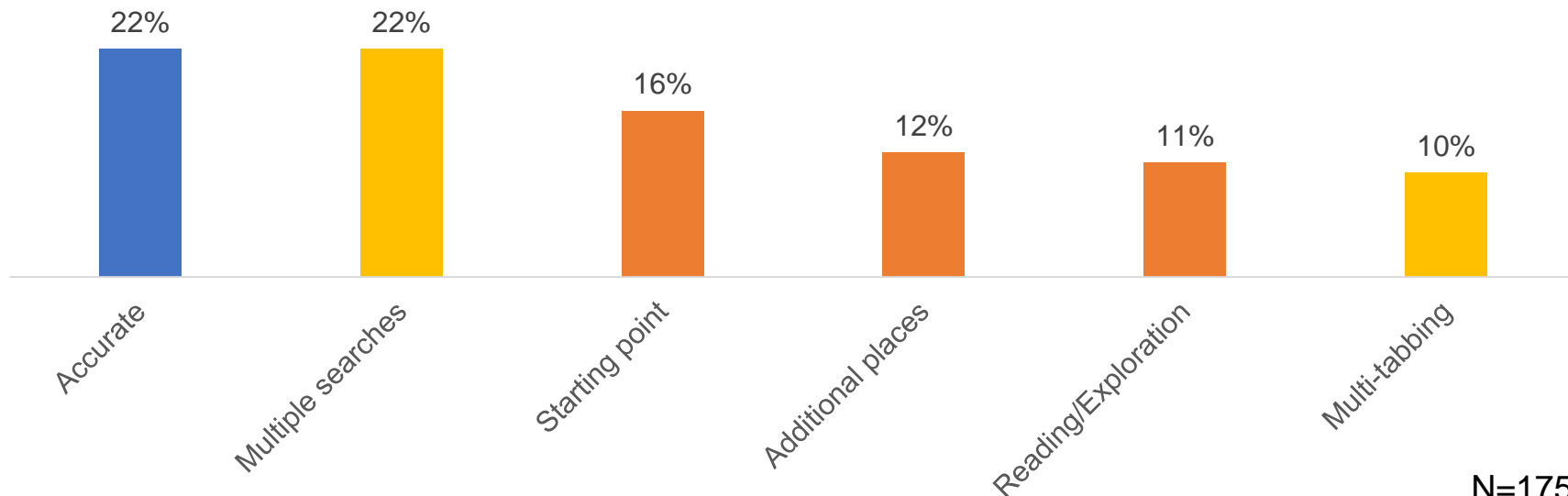


N=175



How real is real enough?

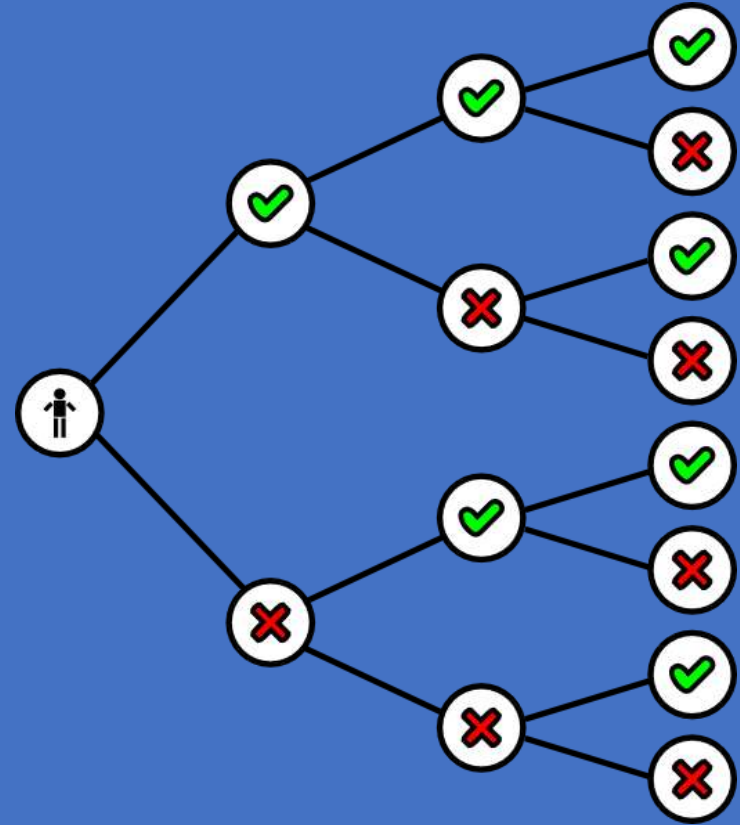
“It would take place at 11:50PM”



N=175

So what about the data?

Opportunities for analysis



Diving Deep

Helpful Task



ID	NE04USFLSC	NE04USFL
G16	TRUE	FALSE

It's a YouTube video [laughter]. Well I guess it's uploaded by the Associated Press, at least, to be fair [laughter]. So [laughter]. Let's see they have the text in here. I think this is actually the video that was in the introduction maybe. I don't remember exactly. Anyway, If it's uploaded by the Associated Press at least that is a real source. This headline though like, the all caps. It's like, "You won't believe what happened next [laughter]." Okay. Well, I'm going to leave that one just unchecked.

- G16

Cite Task

Florida's Python Problem: Snakes Reshape The Everglades : NPR
www.npr.org/2013/01/.../floridas-python-problem-snakes-reshape-the-everglades NPR ▾
Jan 14, 2013 – University of Florida professor Frank Mazzotti talks about the threat they present to the ecosystem of the Everglades. CELESTE HEADLEE ...

☒ Yes ☐ No

ID	NE02CITESC	NE02CITE
S14	FALSE	TRUE

So, NPR, yes, because they have a professor that is knowledgeable in the field. It would be easy to cite it because it was a publication, an interview.

– S14

Credible Task

The Everglades Under Attack

pythonpatrol.weebly.com/

This world heritage site located in Southern Florida is the largest subtropical area in America. Encompassing over 1.5 million acres, of forest, grass marshes, and ...

1

Not
Credible

2

3

Somewhat
Credible

4

5

Highly
Credible

ID	WE01CREDSC	WE01CRED
E01	FALSE	2

And then I would say two because I'm not exactly sure either because, at first, it talks about the Everglades, so I wouldn't know exactly.

– E01

Container Task

Predators in training: operant conditioning of novel behavior ... - Springer

link.springer.com/article/10.1007/s10071-014-0797-1

by SA Emer – 2015 – Cited by 1

Aug 20, 2014 – Tell us about your experience on SpringerLink and you could win a MacBook Pro. ...

Predators in Training: operant conditioning of novel behavior in wild ... Python

Journal

Invasive Predators: a synthesis of the past, present, and future - Springer

link.springer.com/chapter/10.1007/978-3-540-46046-6_12

by WC Pitt – 2007 – Cited by 13

... Station; , Gary W. Witmer Affiliated with National Wildlife Research Center, USDA/APHIS/WS.

Download Book (PDF, 3596 KB) Download Chapter (178 KB) ...

Book

ID	BK01CNTNRSC	BK01CNTNR
G27	FALSE	2

Next is another journal article from Springer. I think this one is actually a book. What the heck is this?

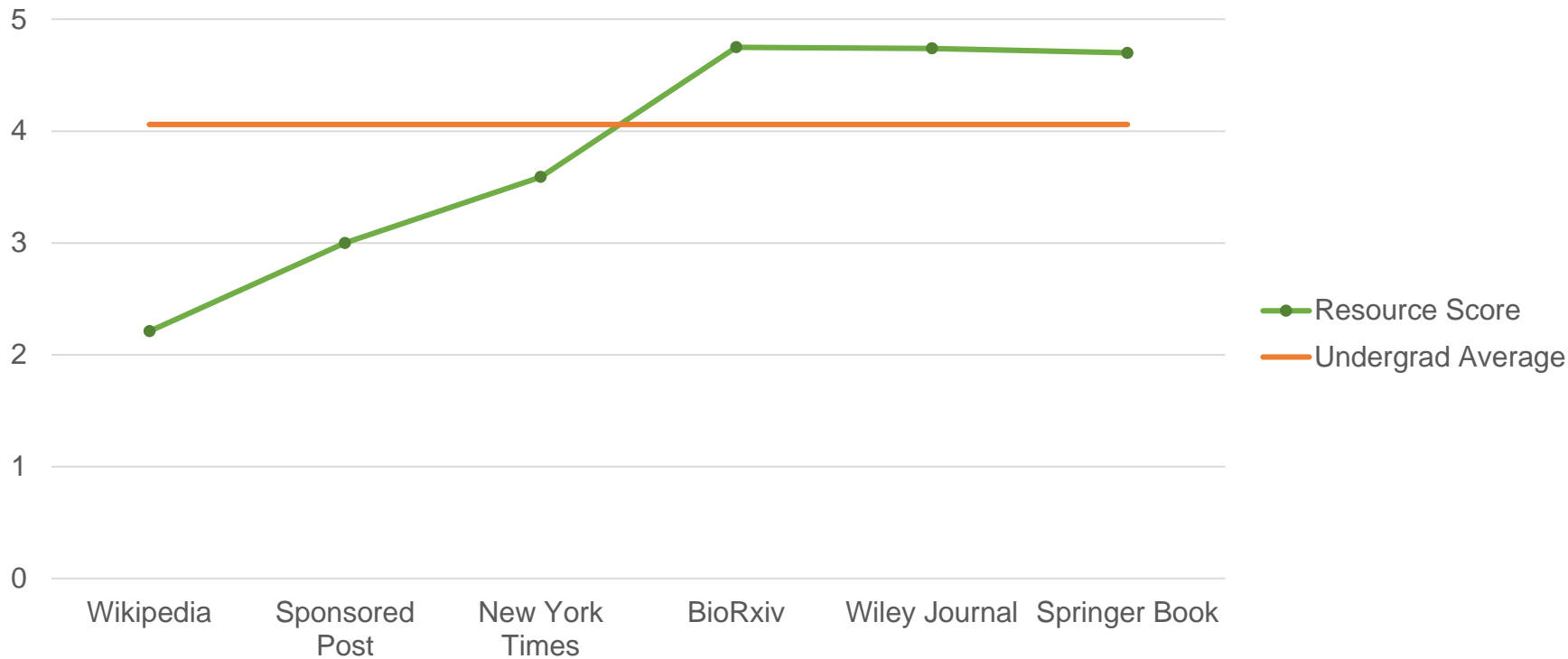
What made you think that?

It has chapters instead of articles, so it's probably a book.
- G27

Looking Across

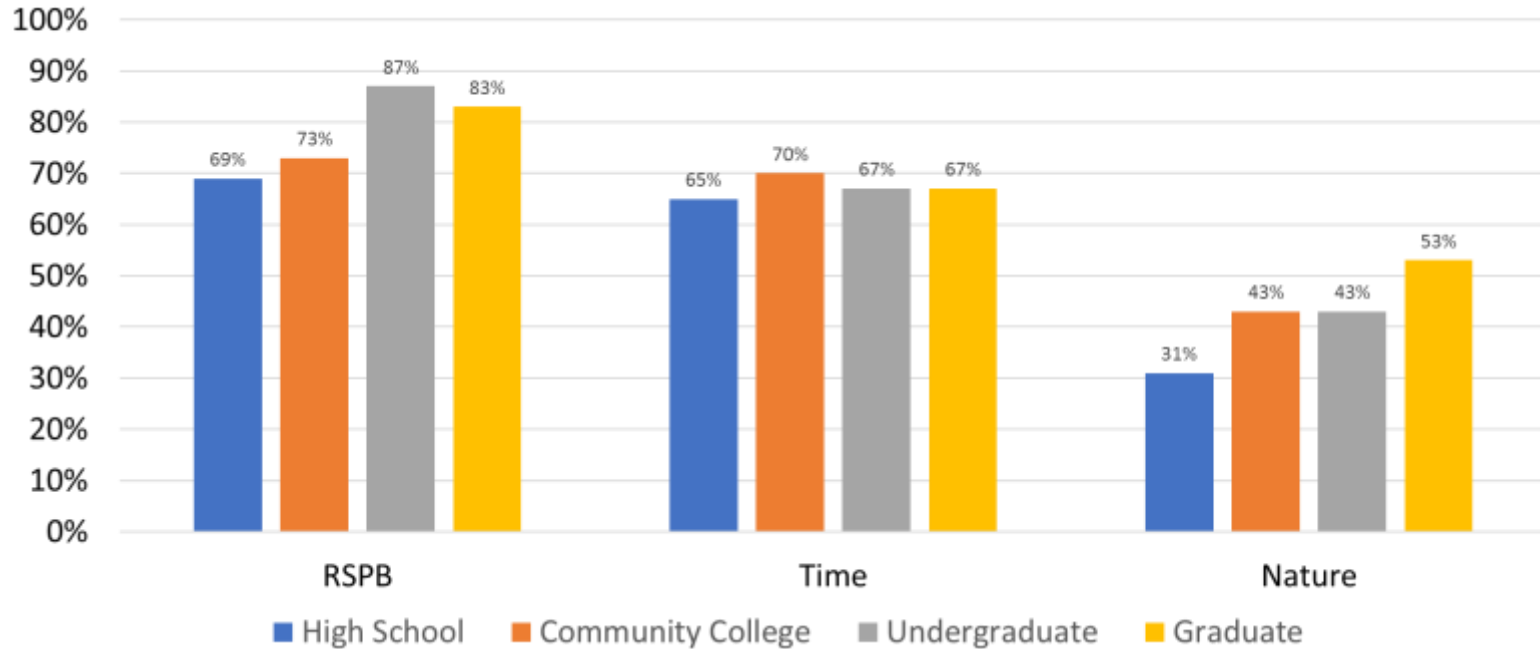
Quantitative - Data Within A Cohort

Undergraduate Credibility Scores



Quantitative - Data Across Cohorts

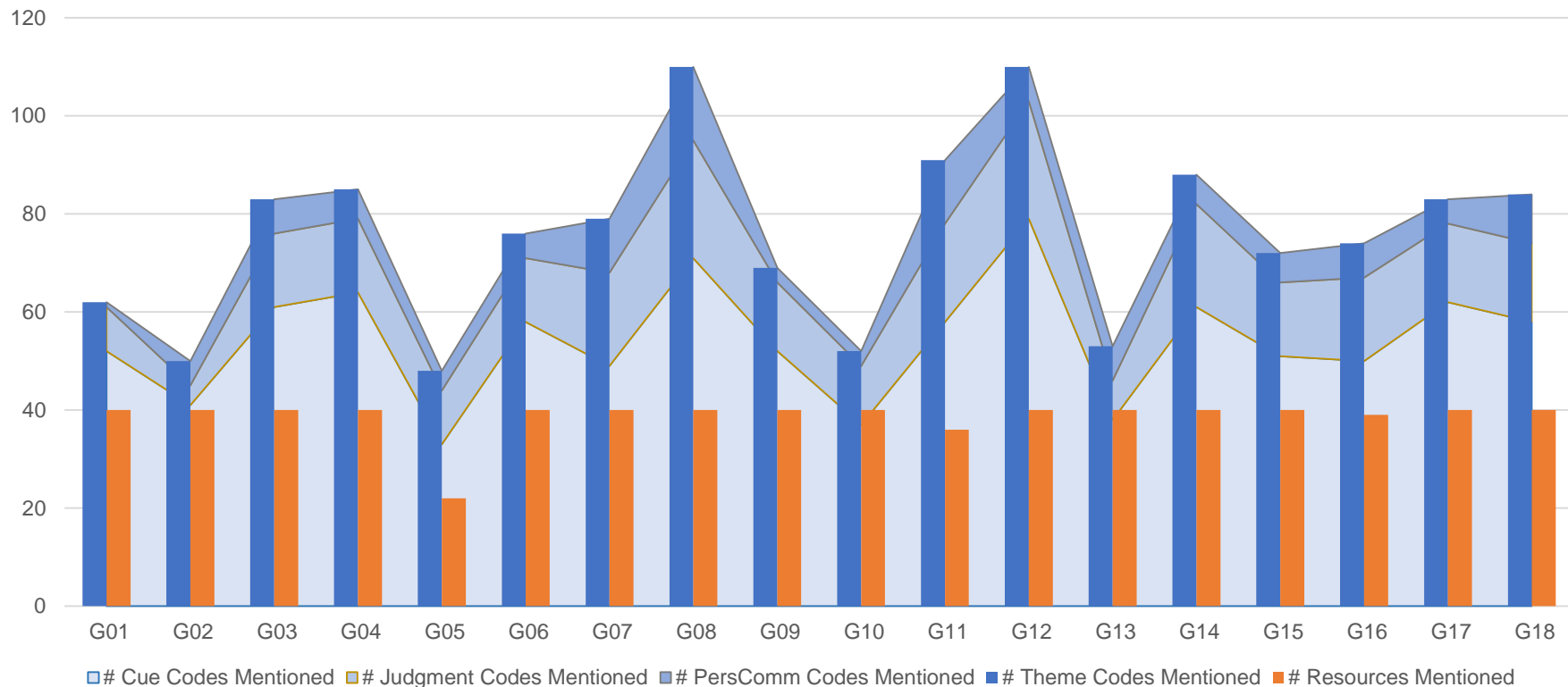
Percentage of Students Who Chose Each Resource as Helpful



(Buhler et al., 2019)

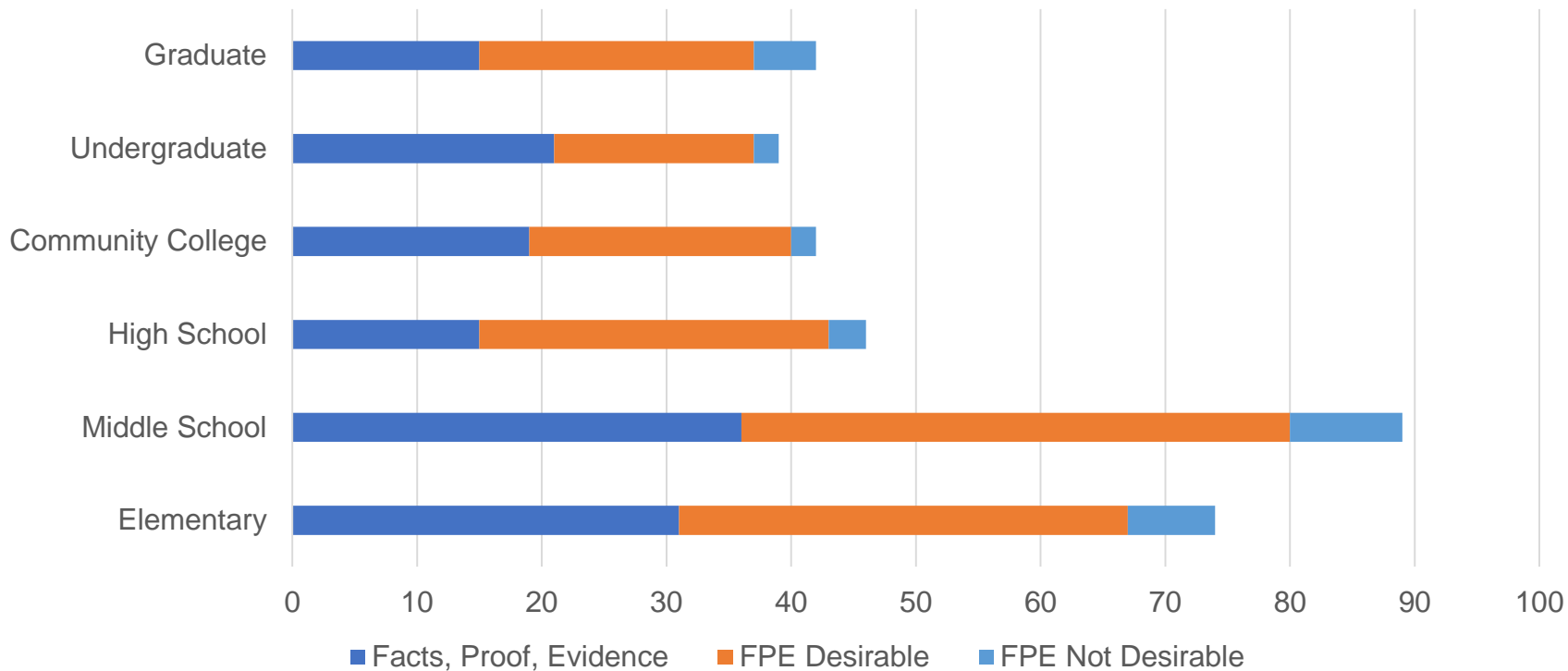
Qualitative - Data Within A Cohort

Graduate - Codes Mentioned by Participant



Qualitative - Data Across Cohorts

Mentions of Fact Codes Per Cohort

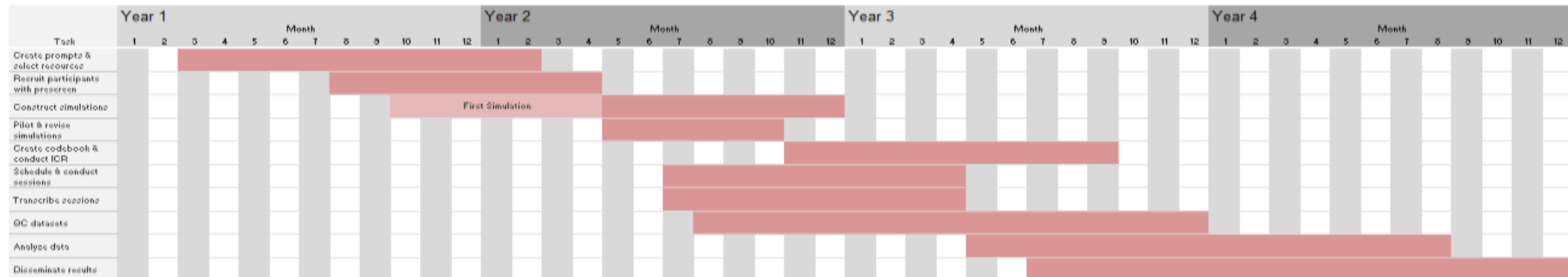


The more you know!

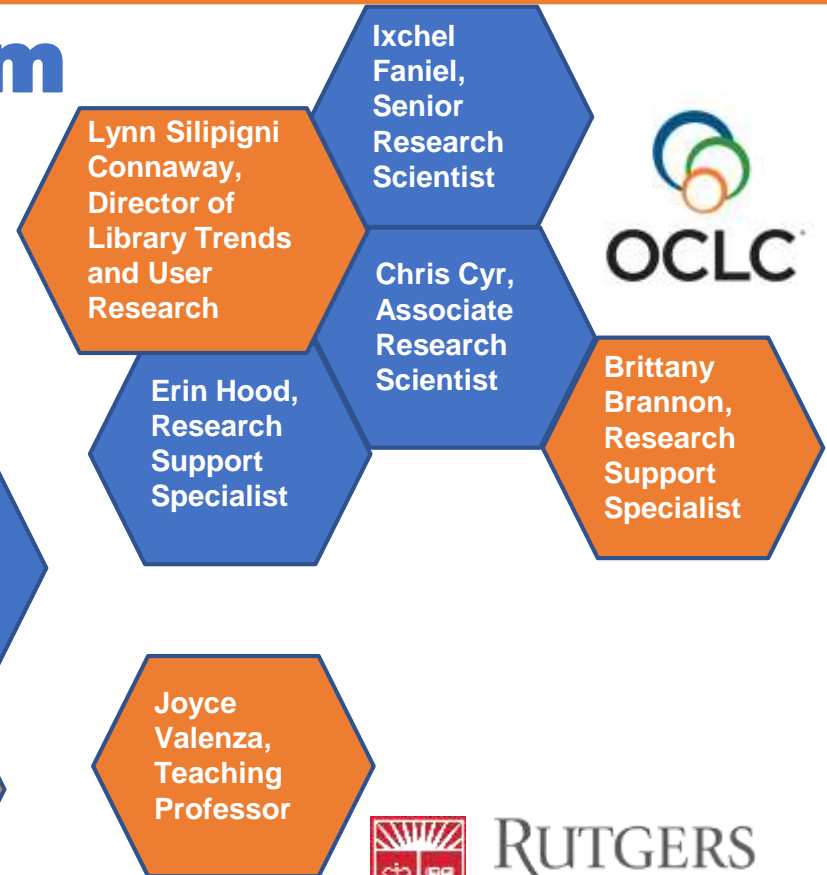
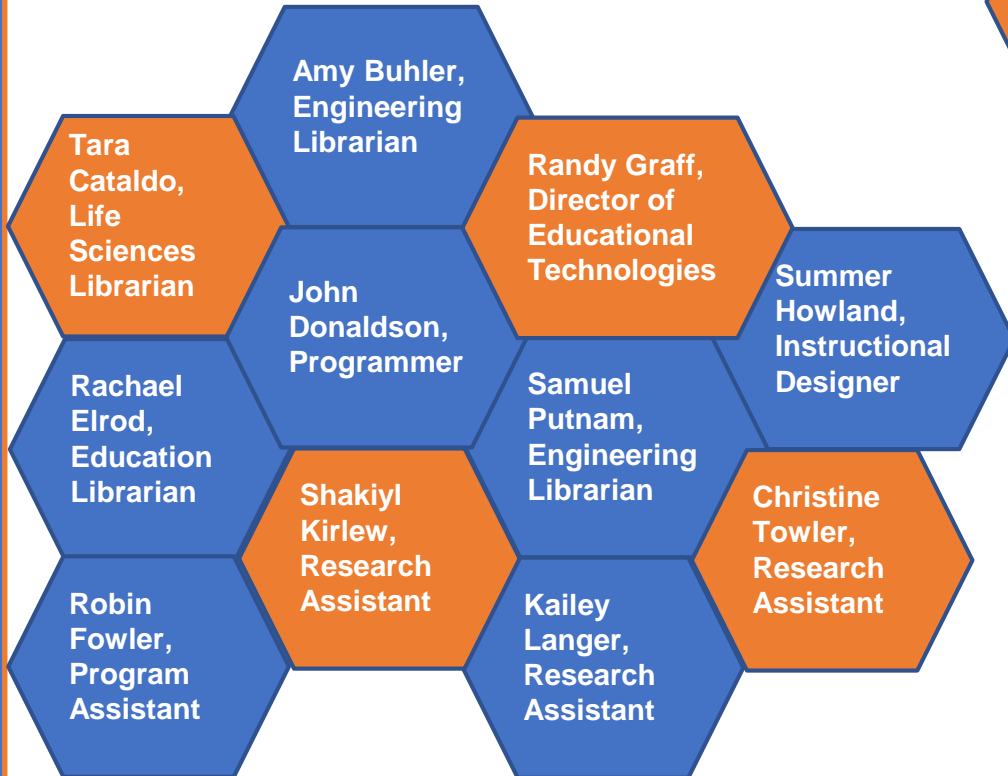
Lessons learned



Study Timeline (Projected)



RSIC Research Team



RUTGERS
School of Communication
and Information

The Advisory Panel

K-12

Adam Fournier
Middle Science Teacher

Alix Freck
Public Librarian

Jennifer Kuntz
School Librarian

Megan Sorenson
Elementary Science Teacher

Adult

Emilio Bruna
University Professor

Matthew Carrigan
College Professor

Jenna Miller
College Librarian

Gayle Evans
Science Master Teacher



References & Image Credits

Buhler, A., Faniel, I., Brannon, B., Cyr, C., Cataldo, T., Connaway, L., Valenza, J., Elrod, R., Graff, R., Putnam, S. R., Hood, E. M., & Langer, K. (2019). *Container collapse and the information remix: Students' evaluations of scientific research recast in scholarly vs. popular sources*. Paper presented at the Association of College and Research Libraries (ACRL) Conference, Cleveland, OH. Retrieved from <http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2019/ContainerCollapseandInformationRemix.pdf>

Gist, M. E., Hopper, H., & Daniels, D. (1998). Behavioral Simulation: Application and Potential in Management Research. *Organizational Research Methods*, 1(3), 251–295. <https://doi.org/10.1177/109442819813001>

Fauquet-Alekhine, P., & Pehuet, N. (2015). *Simulation training: Fundamentals and applications : improving professional practice through simulation training*. Springer.

Image Credits:

Slide 6

Image 1: https://commons.wikimedia.org/wiki/File:Vehicle_simulator.jpg

Image 2: <https://www.flickr.com/photos/kentuckycountrydayschool/4332058135/>

Image 3: https://commons.wikimedia.org/wiki/File:KidZania_pilots_thumbs_up_while_playing_in_a_cockpit_simulator.jpg

Slide 12

Image by DocChewbacca <https://www.flickr.com/photos/st3f4n/3951143570>

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Questions?

Keep Up With the Project:

<https://guides.uflib.ufl.edu/RSIC>

AND

[@RSICStudy](#) on Twitter



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