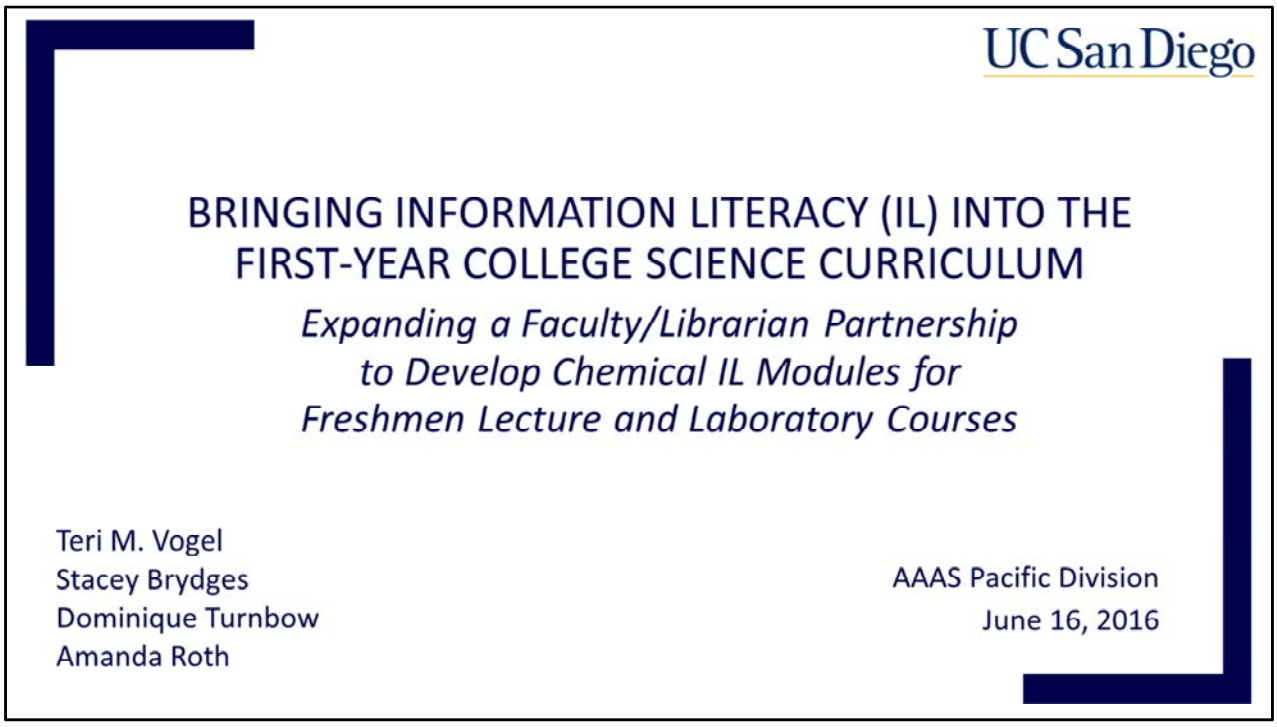


Thanks for being here.
Excited to talk about the work we've been doing at UC San Diego

However, the rapidly changing higher education environment, along with the dynamic and often uncertain information ecosystem in which all of us work and live, require new attention to be focused on foundational ideas about that ecosystem. **Students** have a greater role and responsibility in creating new knowledge, in understanding the contours and the changing dynamics of the world of information, and in using information, data, and scholarship ethically. **Teaching faculty** have a greater responsibility in designing curricula and assignments that foster enhanced engagement with the core ideas about information and scholarship within their disciplines. **Librarians** have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum for information literacy, and in collaborating more extensively with faculty.

Framework for Information Literacy for Higher Education
Association of College & Research Lbraries

Librarians? Faculty? Story for both.
Using this quote because is speaks of shared responsibility and collaboration.
This – collaboration involving 3 librarians & teaching faculty in Dept Chem Biochem

Chemical Information Literacy?

- Relevant
- Scalable
- Sustainable
- Effective
- Class Time

General Chemistry 6C

Spring 2016

Where is CIL happening in the undergrad curriculum? – Likely scattered

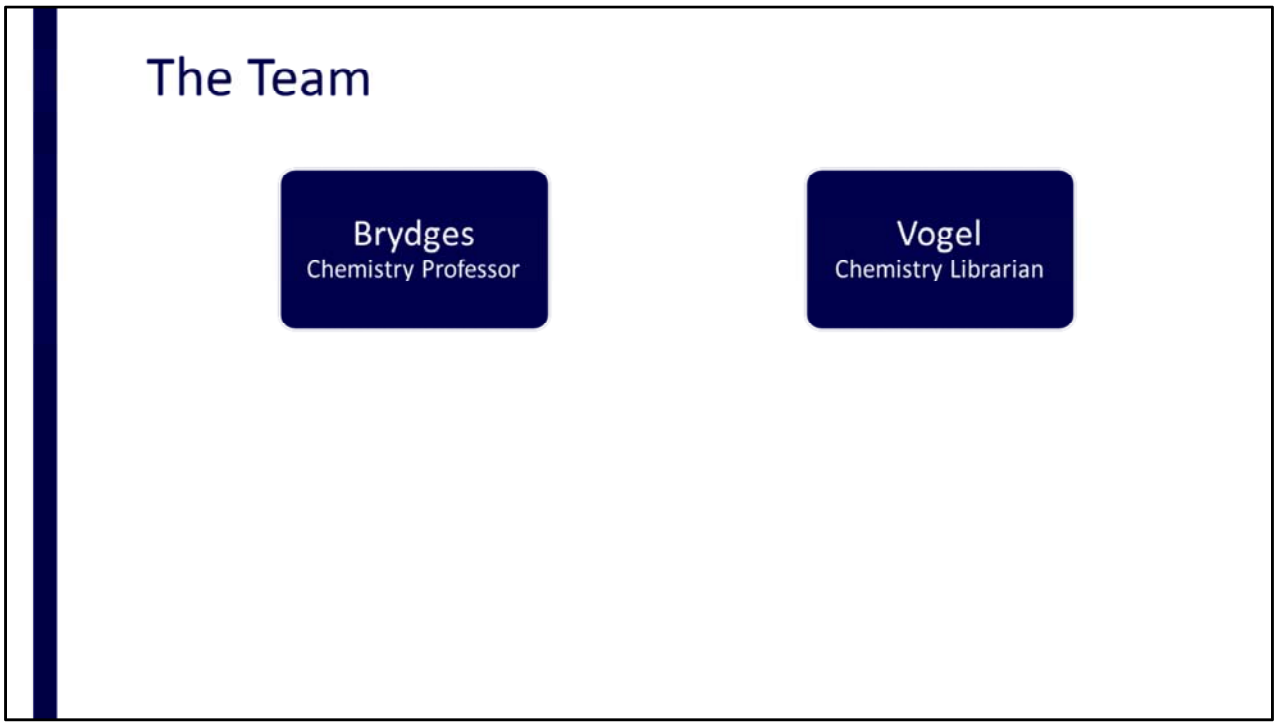
- One-shots in upper o-chem lab classes + LibGuides (passive)

But what about lower division/first year?

- How to embed CIL early on that meets these criteria, AND take as little class time as possible
- Literature, examples – smaller classes (including honors), lab classes with smaller sections, targeted assignments (how many refs did you find in DB?)

So we have Chem 6C – 3rd quarter gen chem

- 1000-1500 word essay or 4-7 minute video on topic of their choice, focused on chemistry (clean water, air/climate, food, medicine/health care, sustainable energy)
- Preceding lit exercise for keyword identification, locating scholarly article, popular source, background source
- Small class, right? 360-420 students



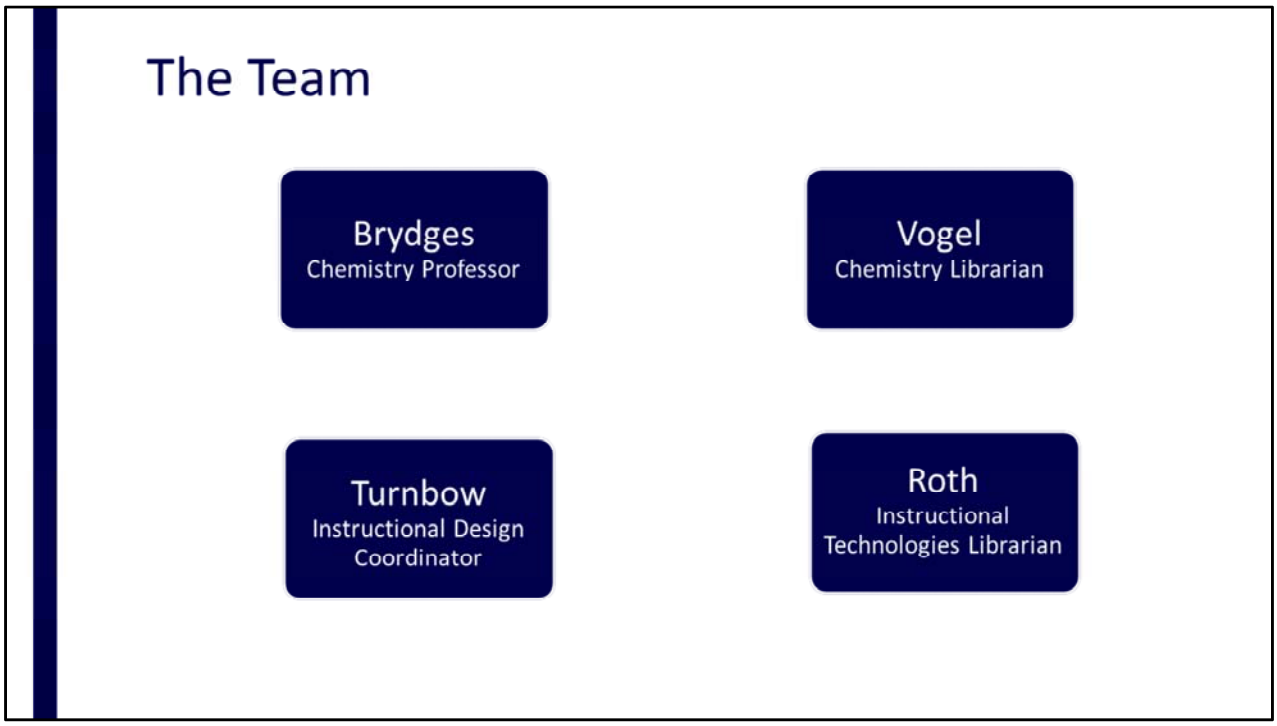
Created by ~5 yrs ago by Stacey Brydges, Assoc Teaching Professor in Department

- Capstone as she calls it – early intro to library and scientific literature, and writing about chemistry.

- AND the capstone is only in her 6C section, not the other 3-4 taught in the spring
- Students know this section has the extra assignment, and in previous surveys have been mostly positive, (small number saying don't offer it).

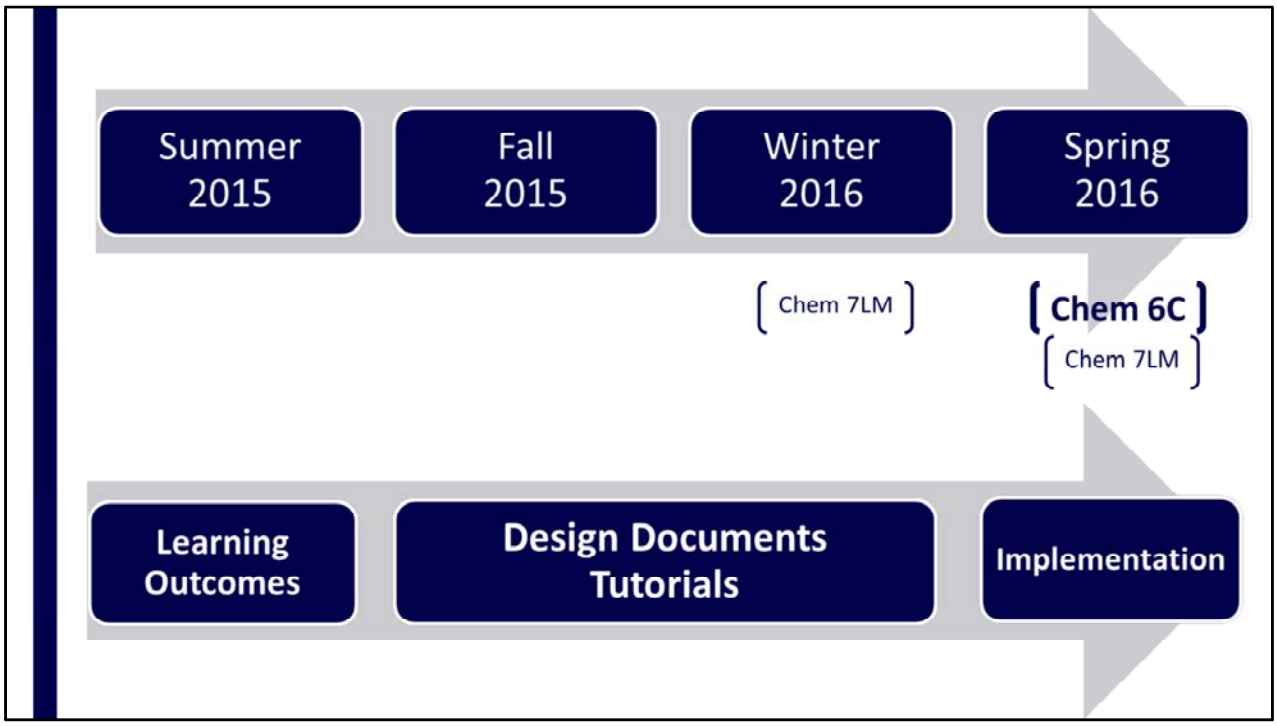
I've been working with her over the years, trying different ways to support the project and literature search assignment. We started with a full one-shot (search strategies, resource demos), then a 10-minute oneshot, then train the trainer w/ the TAs.

- Creating a Libguide (trying to make it more instructional vs. just a list of resources), being available via email and consultations.



Then in 2013 our library underwent a major reorganization, from subject branch libraries to functional based programs. Our biology librarian, Dominique, joined our new Learning Services Program as our Instructional Design & Technologies Coordinator, and in 2014, Amanda joined us as our instructional technologies librarian.

Spring 2015, Dominique set up an consultation form offering instructional design support. I knew that Dominique had created a tutorial for a microbiology lab a few years ago, so I inquired about whether we could make something similar for Chem 6C. Of course the quarter had already started, so we met over the summer to discuss further.

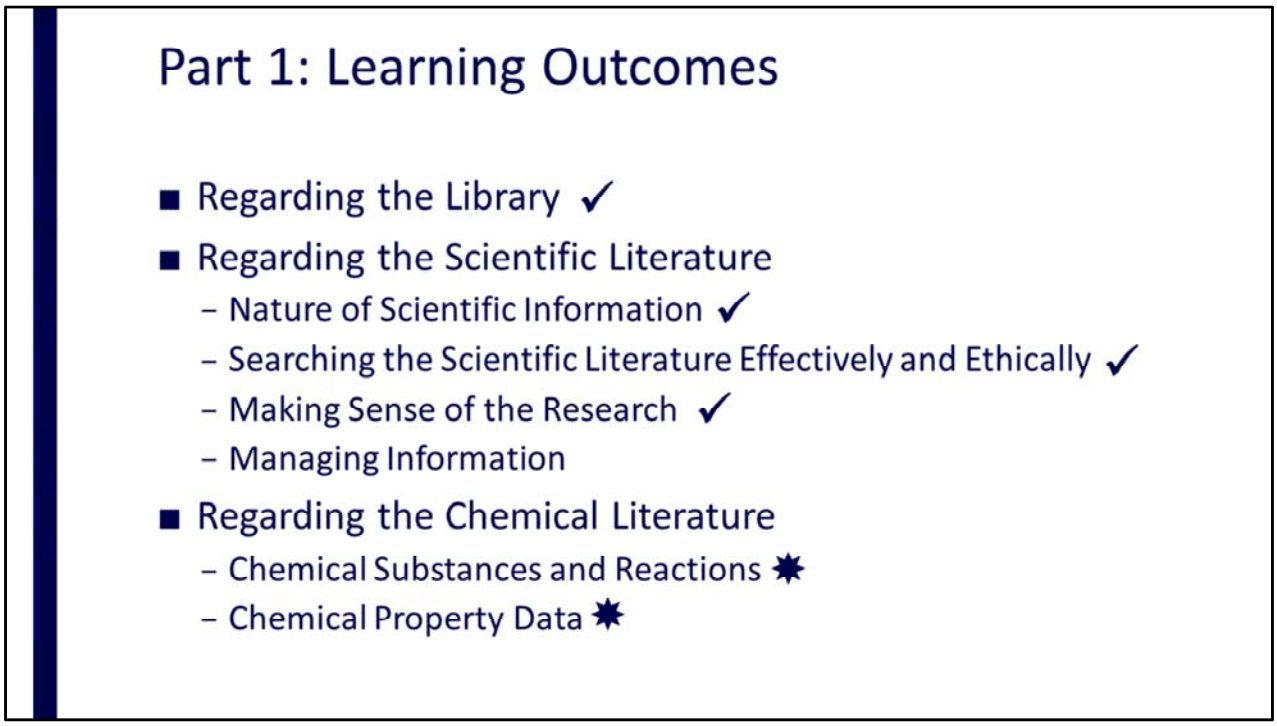


Here's our timeline, and as you can see we started the work last summer (first meeting in July), with the quarters in between (particularly Winter) on planning and design of the tutorials.

Here Chem 6C is a spring course, and she's also teaching a new lab course for majors, so we also kept that in the back of our minds if we could create materials for both.

Wanted to take methodical, instructional design-based approach that would ideally meet those challenges of scalability, time, effectiveness, sustainability to support an existing info-lit based course assignment. Acknowledging little to no class time for a course where they now take the midterms on Saturday.

First step: to establish the learning outcomes that we wanted to meet, and how best to meet them.
What can be done online, what is better suited for in-person interaction.

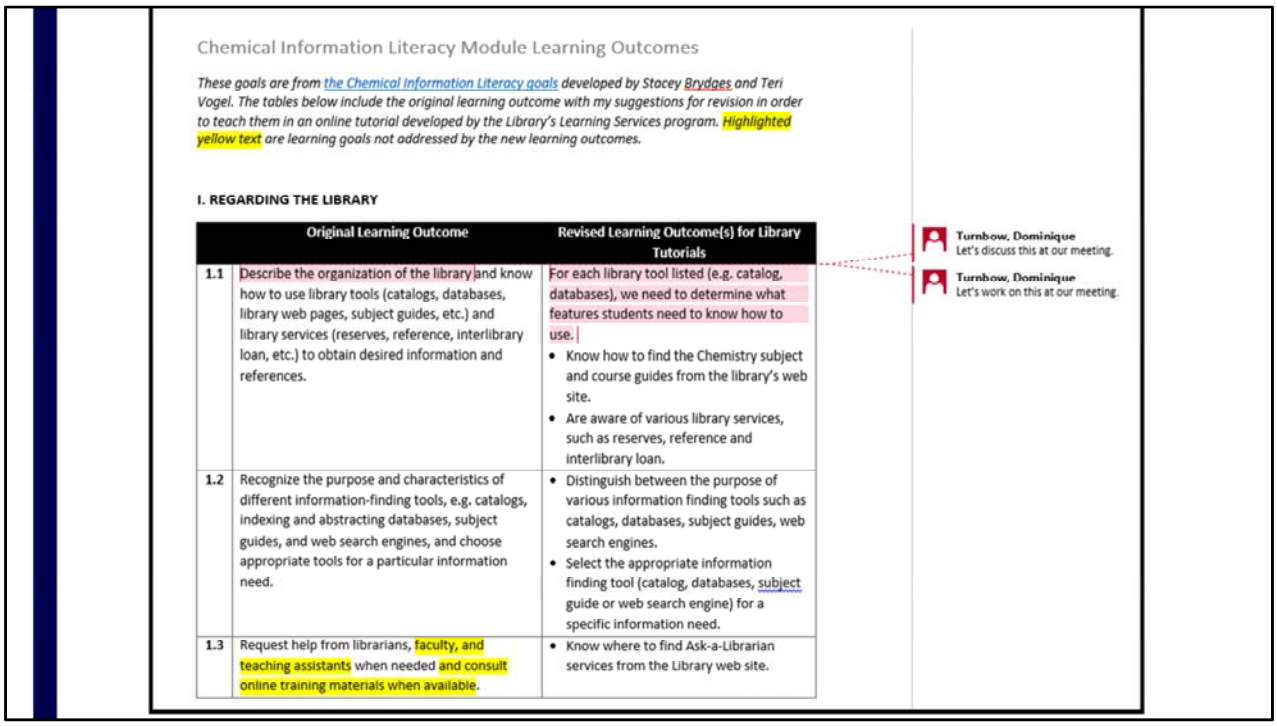


Over summer, Stacey and I considered chemical info literacy learning outcomes for the full undergrad curriculum, as part of the larger conversation (how to support the undergrad curriculum, not just one section of a course).

Heavily relied on SLA/ACS Information Competencies for Chemistry Undergraduates as a launching point, as well as ACRL Information Literacy Standards. the ACRL Framework and the ACS Guidelines for Undergraduates.

Kept the Broad -→ Narrow or Discipline-specific (Novice to Expert)

This is how we broke it out, with outcomes for each. Some rewriting (more action based), additions, rearranging. And for a class like this, assignment like this, we knew we were focusing on these areas. In contrast, the learning outcomes for those upper level o-chem lab classes fit more in these areas.



Chemical Information Literacy Module Learning Outcomes

These goals are from the Chemical Information Literacy goals developed by Stacey Brydges and Teri Vogel. The tables below include the original learning outcome with my suggestions for revision in order to teach them in an online tutorial developed by the Library's Learning Services program. Highlighted yellow text are learning goals not addressed by the new learning outcomes.

I. REGARDING THE LIBRARY

	Original Learning Outcome	Revised Learning Outcome(s) for Library Tutorials
1.1	Describe the organization of the library and know how to use library tools (catalogs, databases, library web pages, subject guides, etc.) and library services (reserves, reference, interlibrary loan, etc.) to obtain desired information and references.	For each library tool listed (e.g. catalog, databases), we need to determine what features students need to know how to use. • Know how to find the Chemistry subject and course guides from the library's web site. • Are aware of various library services, such as reserves, reference and interlibrary loan.
1.2	Recognize the purpose and characteristics of different information-finding tools, e.g. catalogs, indexing and abstracting databases, subject guides, and web search engines, and choose appropriate tools for a particular information need.	• Distinguish between the purpose of various information finding tools such as catalogs, databases, subject guides, web search engines. • Select the appropriate information finding tool (catalog, databases, subject guide or web search engine) for a specific information need.
1.3	Request help from librarians, faculty, and teaching assistants when needed and consult online training materials when available.	• Know where to find Ask-a-Librarian services from the Library web site.

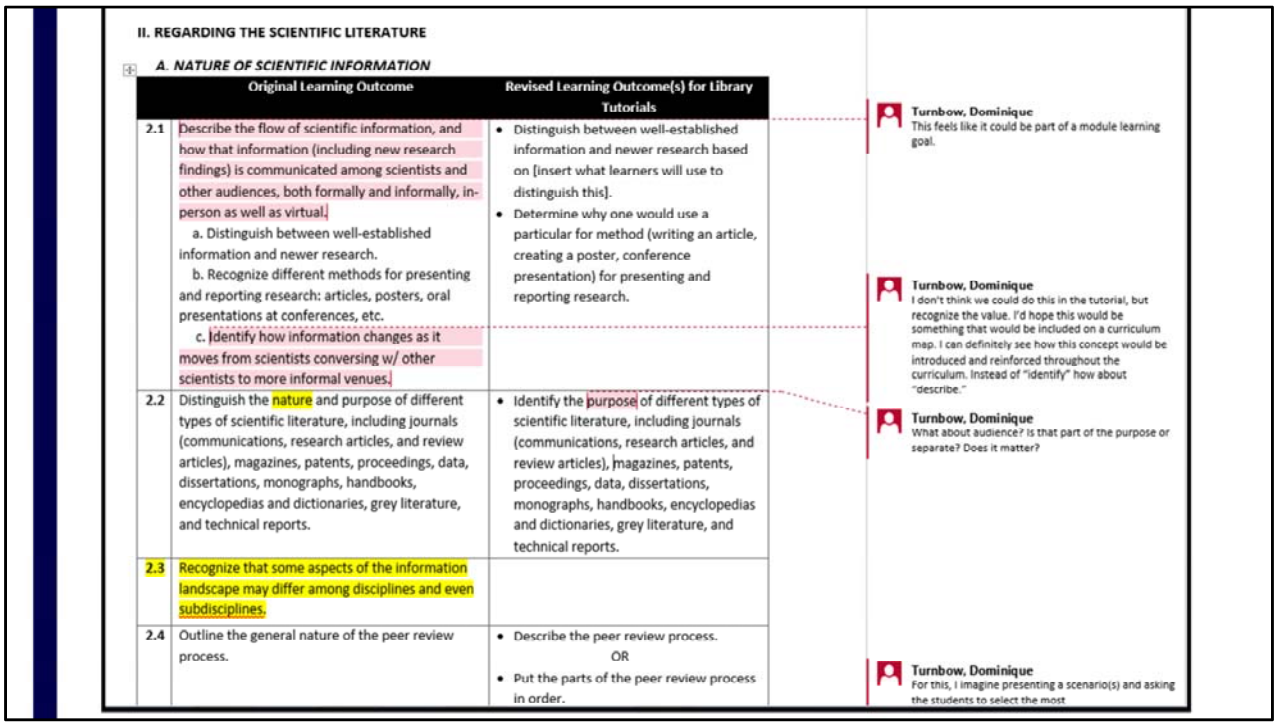
Turnbow, Dominique
Let's discuss this at our meeting.

Turnbow, Dominique
Let's work on this at our meeting.

Here are some screencaps of our learning goals on the left, and Dominque's reframing the outcomes for the tutorials.
You can see where split some outcomes out, and others identified as goals that wouldn't be addressed by the learning outcomes.

Some fall out of the library scope (especially an online environment) and more of the writing practice/getting feedback from instructors/TAs.
Also noting goals that Stacey and I had where assessment was iffy.

With this document (not say complete, but as good as we had it for now), we started planning work on a series of tutorials to Chem 6C.



II. REGARDING THE SCIENTIFIC LITERATURE

A. NATURE OF SCIENTIFIC INFORMATION

	Original Learning Outcome	Revised Learning Outcome(s) for Library Tutorials
2.1	Describe the flow of scientific information, and how that information (including new research findings) is communicated among scientists and other audiences, both formally and informally, in-person as well as virtual. a. Distinguish between well-established information and newer research. b. Recognize different methods for presenting and reporting research: articles, posters, oral presentations at conferences, etc. c. Identify how information changes as it moves from scientists conversing w/ other scientists to more informal venues.	• Distinguish between well-established information and newer research based on [insert what learners will use to distinguish this]. • Determine why one would use a particular for method (writing an article, creating a poster, conference presentation) for presenting and reporting research.
2.2	Distinguish the nature and purpose of different types of scientific literature, including journals (communications, research articles, and review articles), magazines, patents, proceedings, data, dissertations, monographs, handbooks, encyclopedias and dictionaries, grey literature, and technical reports.	• Identify the purpose of different types of scientific literature, including journals (communications, research articles, and review articles), magazines, patents, proceedings, data, dissertations, monographs, handbooks, encyclopedias and dictionaries, grey literature, and technical reports.
2.3	Recognize that some aspects of the information landscape may differ among disciplines and even subdisciplines.	
2.4	Outline the general nature of the peer review process.	• Describe the peer review process. OR • Put the parts of the peer review process in order.

Turnbow, Dominique
This feels like it could be part of a module learning goal.

Turnbow, Dominique
I don't think we could do this in the tutorial, but recognize the value. I'd hope this would be something that would be included on a curriculum map. I can definitely see how this concept would be introduced and reinforced throughout the curriculum. Instead of "identify" how about "describe."

Turnbow, Dominique
What about audience? Is that part of the purpose or separate? Does it matter?

Turnbow, Dominique
For this, I imagine presenting a scenario(s) and asking the students to select the most

Here are some screencaps of our learning goals on the left, and Dominque's reframing the outcomes for the tutorials.
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Some fall out of the library scope (especially an online environment) and more of the writing practice/getting feedback from instructors/TAs.
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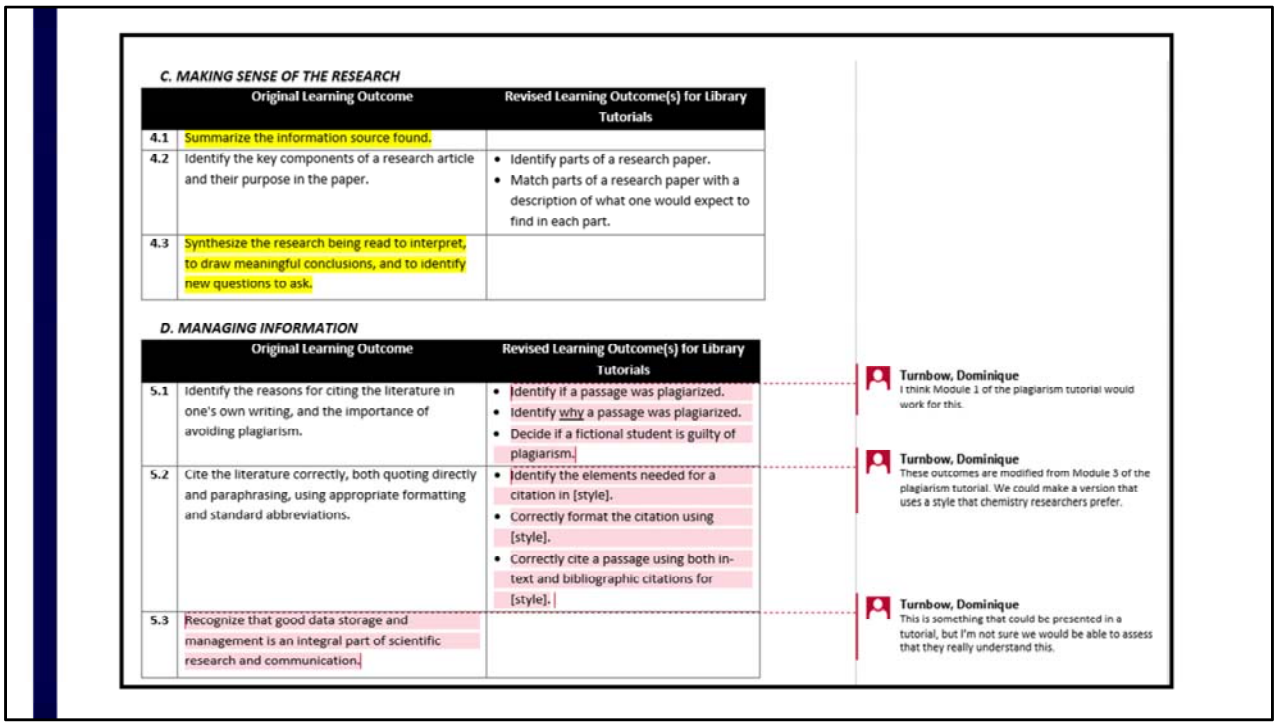

C. MAKING SENSE OF THE RESEARCH

	Original Learning Outcome	Revised Learning Outcome(s) for Library Tutorials
4.1	Summarize the information source found.	
4.2	Identify the key components of a research article and their purpose in the paper.	• Identify parts of a research paper. • Match parts of a research paper with a description of what one would expect to find in each part.
4.3	Synthesize the research being read to interpret, to draw meaningful conclusions, and to identify new questions to ask.	

D. MANAGING INFORMATION

	Original Learning Outcome	Revised Learning Outcome(s) for Library Tutorials
5.1	Identify the reasons for citing the literature in one's own writing, and the importance of avoiding plagiarism.	• Identify if a passage was plagiarized. • Identify why a passage was plagiarized. • Decide if a fictional student is guilty of plagiarism.
5.2	Cite the literature correctly, both quoting directly and paraphrasing, using appropriate formatting and standard abbreviations.	• Identify the elements needed for a citation in [style]. • Correctly format the citation using [style]. • Correctly cite a passage using both in-text and bibliographic citations for [style].
5.3	Recognize that good data storage and management is an integral part of scientific research and communication.	

Turnbow, Dominique
I think Module 1 of the plagiarism tutorial would work for this.

Turnbow, Dominique
These outcomes are modified from Module 3 of the plagiarism tutorial. We could make a version that uses a style that chemistry researchers prefer.

Turnbow, Dominique
This is something that could be presented in a tutorial, but I'm not sure we would be able to assess that they really understand this.

Here are some screencaps of our learning goals on the left, and Dominque's reframing the outcomes for the tutorials.
You can see where split some outcomes out, and others identified as goals that wouldn't be addressed by the learning outcomes.

Some fall out of the library scope (especially an online environment) and more of the writing practice/getting feedback from instructors/TAs.
Also noting goals that Stacey and I had where assessment was iffy.

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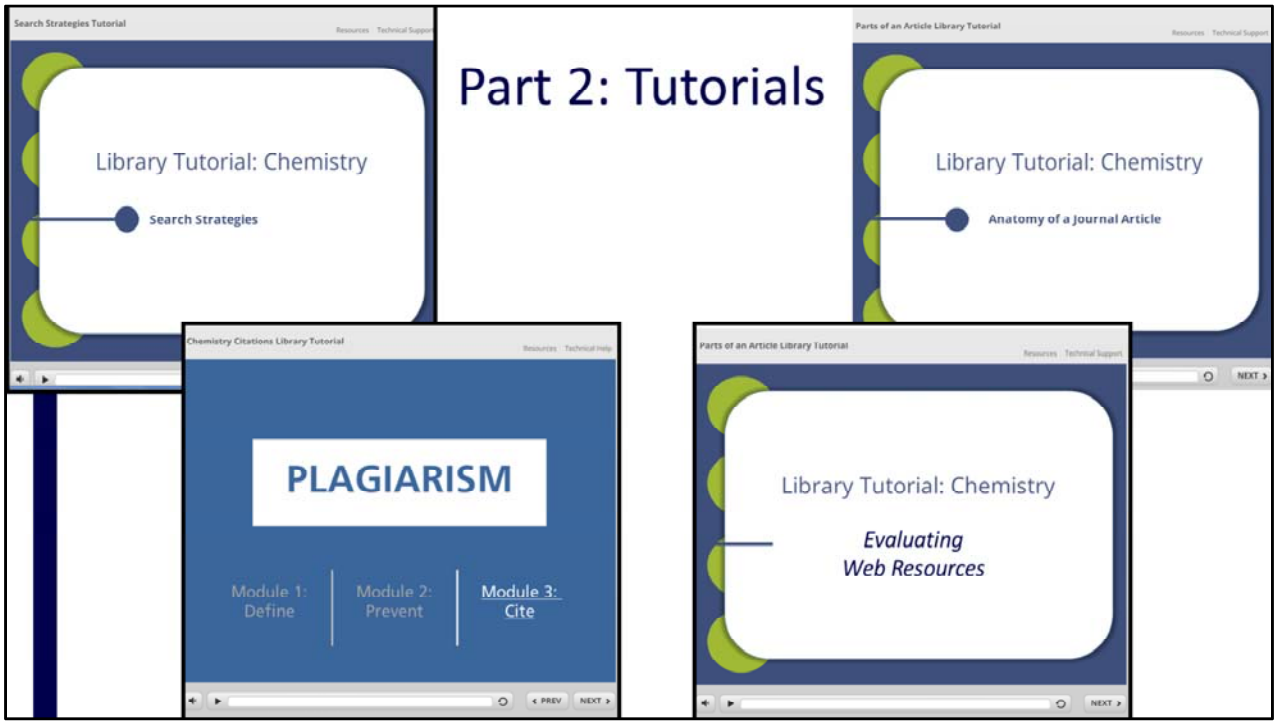
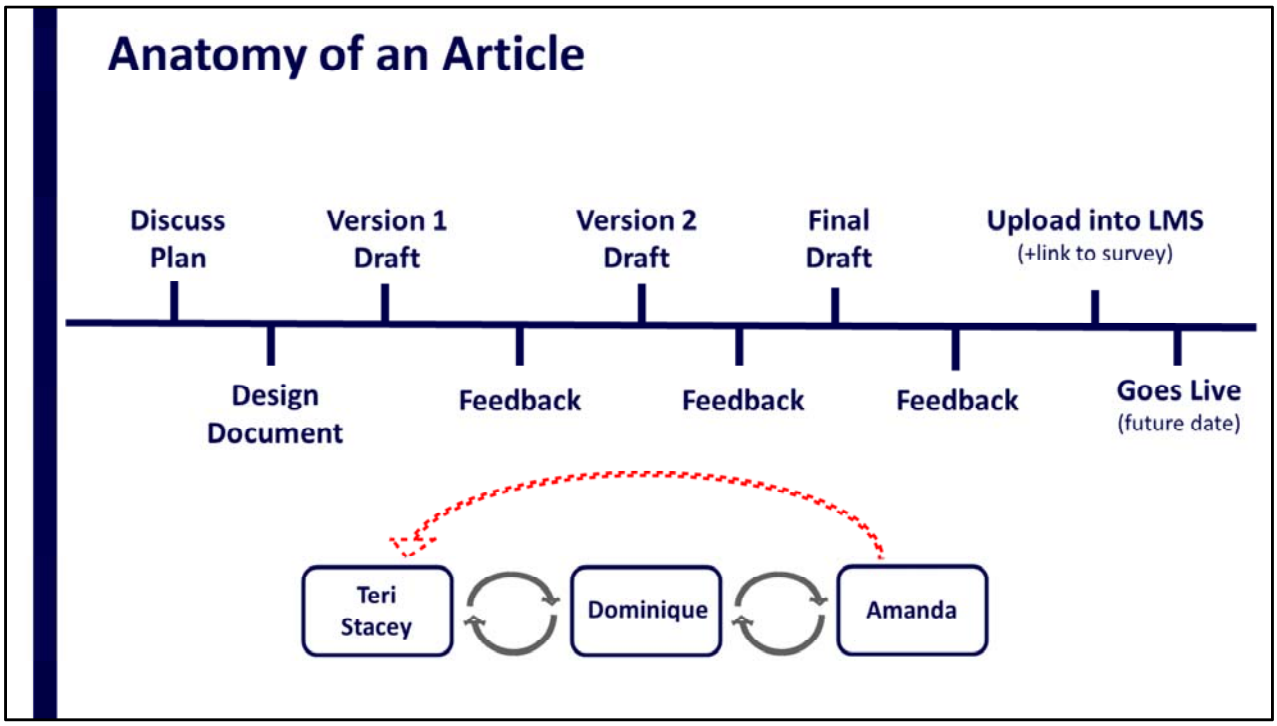


Here are the others planned, and developed over the winter:

- Search Strategies,
- Anatomy of a Journal Article.
- Cite – Parts of a citation and how to cite sources using ACS Citation style. This is the 3rd module tutorial for our existing plagiarism tutorial (existing tutorial used MLA).

- This last one for evaluating web resources, didn't happen, and I'll talk about that in a bit.

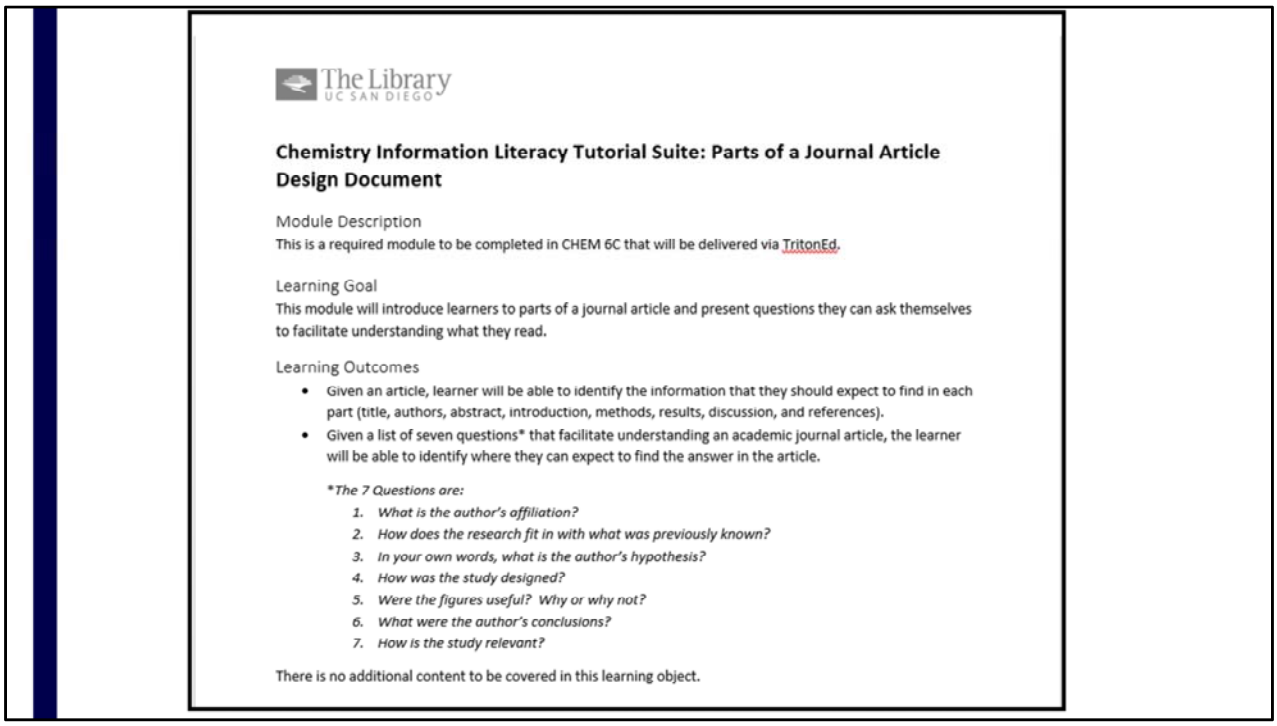
- We also have 2 "products" developed in fall to test w/ Winter 7LM 1st – but not focus on them for this talk
    - Animated video "How Chemistry Shapes Our World" – research cycle
    - Slightly rervised version of FYE Scavenger Hunt



Focus now on the development/design of one tutorial.
Here's the general timeline, starting with Dominique, Stacey and I meeting to discuss what we wanted to see in this tutorial in terms of learning outcomes.
Discuss – Confirm – Draft – Feedback (repeat) – Deploy

Communication was primarily Stacey and I with Dominique (in person, via email), then she communicated with Amanda on the design. That way we didn't bombard Amanda with suggestions that weren't realistic with the time frame, or even contradicted each other. But then Amanda contacted us as needed for questions related to the content.

Amanda and Dominique recently presented at LOEX on how they work together on these design projects, and can answer any specific question on that front as well as technical aspects of the tutorial design.



The Library
UC SAN DIEGO

Chemistry Information Literacy Tutorial Suite: Parts of a Journal Article Design Document

Module Description

This is a required module to be completed in CHEM 6C that will be delivered via TritonEd.

Learning Goal

This module will introduce learners to parts of a journal article and present questions they can ask themselves to facilitate understanding what they read.

Learning Outcomes

- Given an article, learner will be able to identify the information that they should expect to find in each part (title, authors, abstract, introduction, methods, results, discussion, and references).
- Given a list of seven questions* that facilitate understanding an academic journal article, the learner will be able to identify where they can expect to find the answer in the article.

The 7 Questions are:

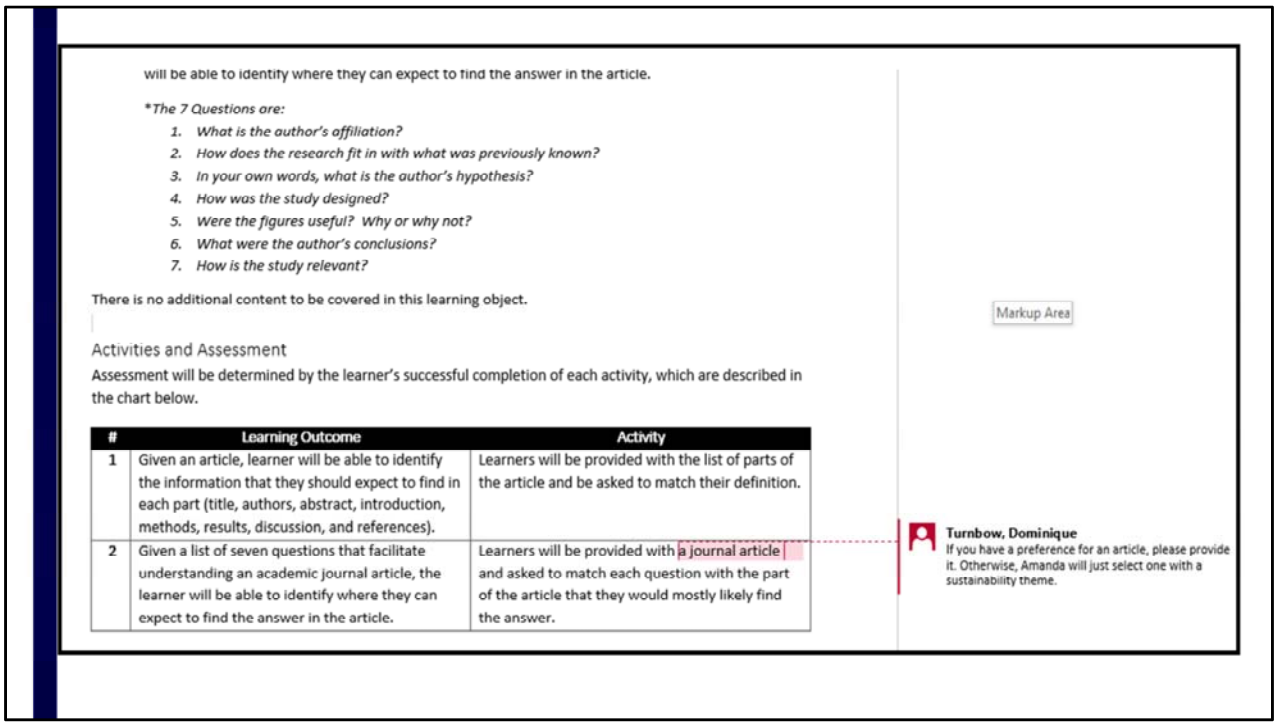
1. *What is the author's affiliation?*
2. *How does the research fit in with what was previously known?*
3. *In your own words, what is the author's hypothesis?*
4. *How was the study designed?*
5. *Were the figures useful? Why or why not?*
6. *What were the author's conclusions?*
7. *How is the study relevant?*

There is no additional content to be covered in this learning object.

So here's the design document for Parts of an Article – learning outcomes, goals and the activities, what Amanda would need from me.
Stacey and I reviewed, made comments, and "signed off on it."

But it's not rigid. Where is says no additional content? In the build phase, Stacey asked for a segment on how to read an article (we couldn't assess, but still a logical addition to the tutorial). So we wrote up something to go at the end.

On the last slide are the questions the students will be asked at the end.



will be able to identify where they can expect to find the answer in the article.

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1. *What is the author's affiliation?*
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6. *What were the author's conclusions?*
7. *How is the study relevant?*

There is no additional content to be covered in this learning object.

Markup Area

Activities and Assessment

Assessment will be determined by the learner's successful completion of each activity, which are described in the chart below.

#	Learning Outcome	Activity
1	Given an article, learner will be able to identify the information that they should expect to find in each part (title, authors, abstract, introduction, methods, results, discussion, and references).	Learners will be provided with the list of parts of the article and be asked to match their definition.
2	Given a list of seven questions that facilitate understanding an academic journal article, the learner will be able to identify where they can expect to find the answer in the article.	Learners will be provided with a journal article and asked to match each question with the part of the article that they would mostly likely find the answer.

Turnbow, Dominique
If you have a preference for an article, please provide it. Otherwise, Amanda will just select one with a sustainability theme.

So here's the design document for Parts of an Article – learning outcomes, goals and the activities, what Amanda would need from me.
Stacey and I reviewed, made comments, and "signed off on it."

But it's not rigid. Where is says no additional content? In the build phase, Stacey asked for a segment on how to read an article (we couldn't assess, but still a logical addition to the tutorial). So we wrote up something to go at the end.

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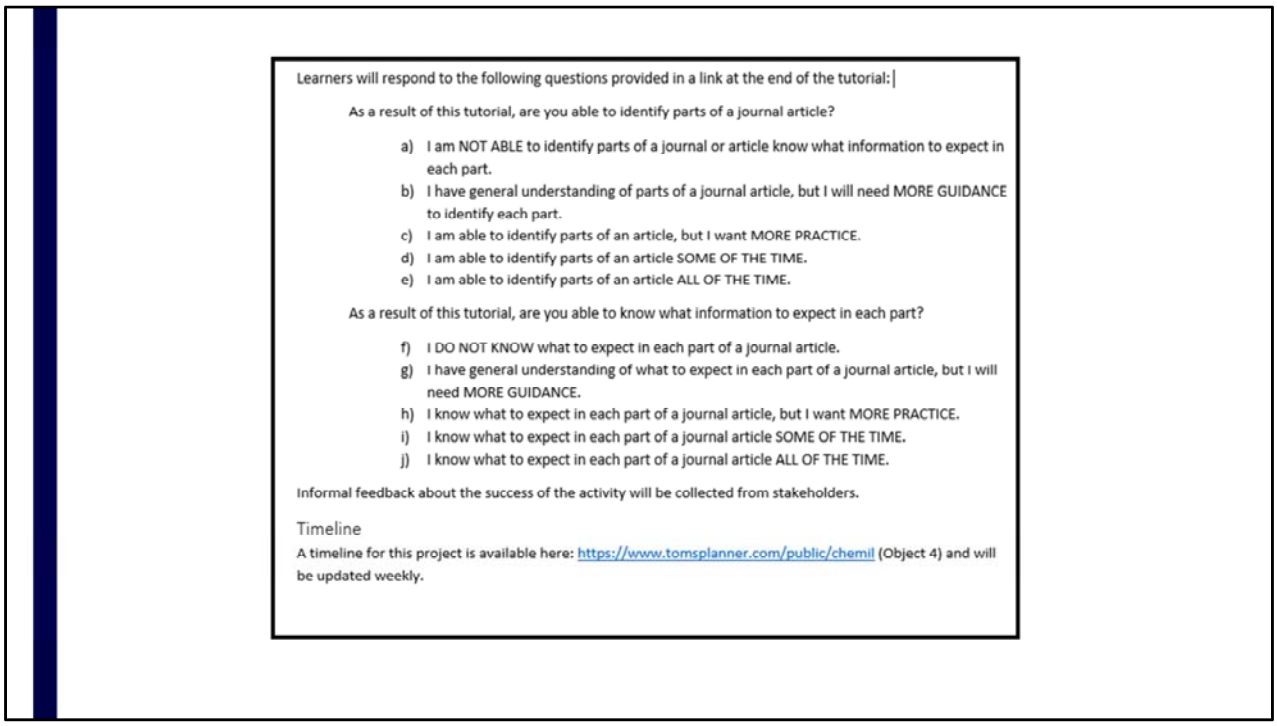

Learners will respond to the following questions provided in a link at the end of the tutorial:

As a result of this tutorial, are you able to identify parts of a journal article?

a) I am NOT ABLE to identify parts of a journal or article know what information to expect in each part.
b) I have general understanding of parts of a journal article, but I will need MORE GUIDANCE to identify each part.
c) I am able to identify parts of an article, but I want MORE PRACTICE.
d) I am able to identify parts of an article SOME OF THE TIME.
e) I am able to identify parts of an article ALL OF THE TIME.

As a result of this tutorial, are you able to know what information to expect in each part?

f) I DO NOT KNOW what to expect in each part of a journal article.
g) I have general understanding of what to expect in each part of a journal article, but I will need MORE GUIDANCE.
h) I know what to expect in each part of a journal article, but I want MORE PRACTICE.
i) I know what to expect in each part of a journal article SOME OF THE TIME.
j) I know what to expect in each part of a journal article ALL OF THE TIME.

Informal feedback about the success of the activity will be collected from stakeholders.

Timeline

A timeline for this project is available here: https://www.tomsplanner.com/public/chemil (Object 4) and will be updated weekly.

So here's the design document for Parts of an Article – learning outcomes, goals and the activities, what Amanda would need from me.
Stacey and I reviewed, made comments, and "signed off on it."

But it's not rigid. Where is says no additional content? In the build phase, Stacey asked for a segment on how to read an article (we couldn't assess, but still a logical addition to the tutorial). So we wrote up something to go at the end.

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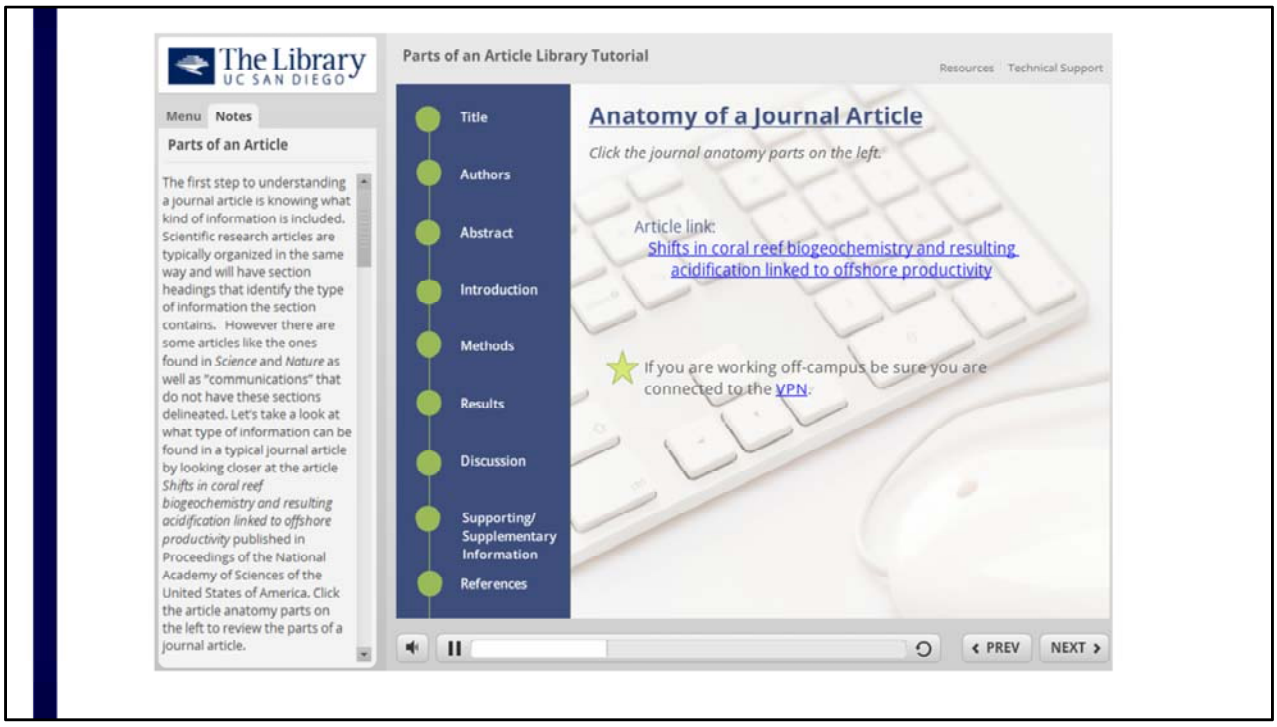
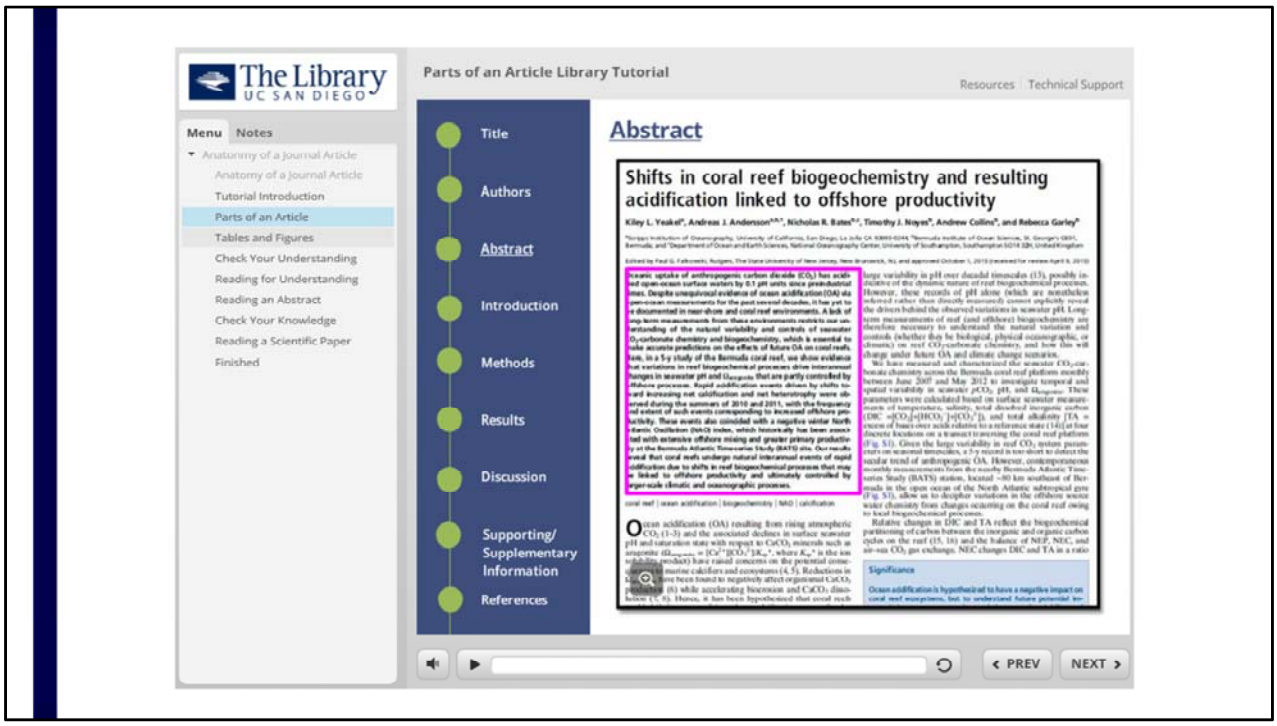


Some screencaps of the tutorial so you can see it. The first draft Amanda sent out had no recording—just this transcript of what she will record, which students will also see. Much easier to give feedback before the recording.

I supplied the article (which took a bit of time – relevant to the course, UCSD faculty, had all of the representative sections, yet wasn't such a long article that Amanda would have trouble highlighting the sections).

The second draft had the recording and functionality, so we could test out the interactivity like the drag and drop exercise here, along with the Figures and Tables page, which Amanda selected from handful of articles I sent them. Then we got a final draft to approve.

Once approved, Amanda uploaded it into TritonEd for Stacey to make live when she was ready. *The last slide here linked to a Qualtrics survey where they were asked those questions from the design document – also to get credit for completing the tutorial.*



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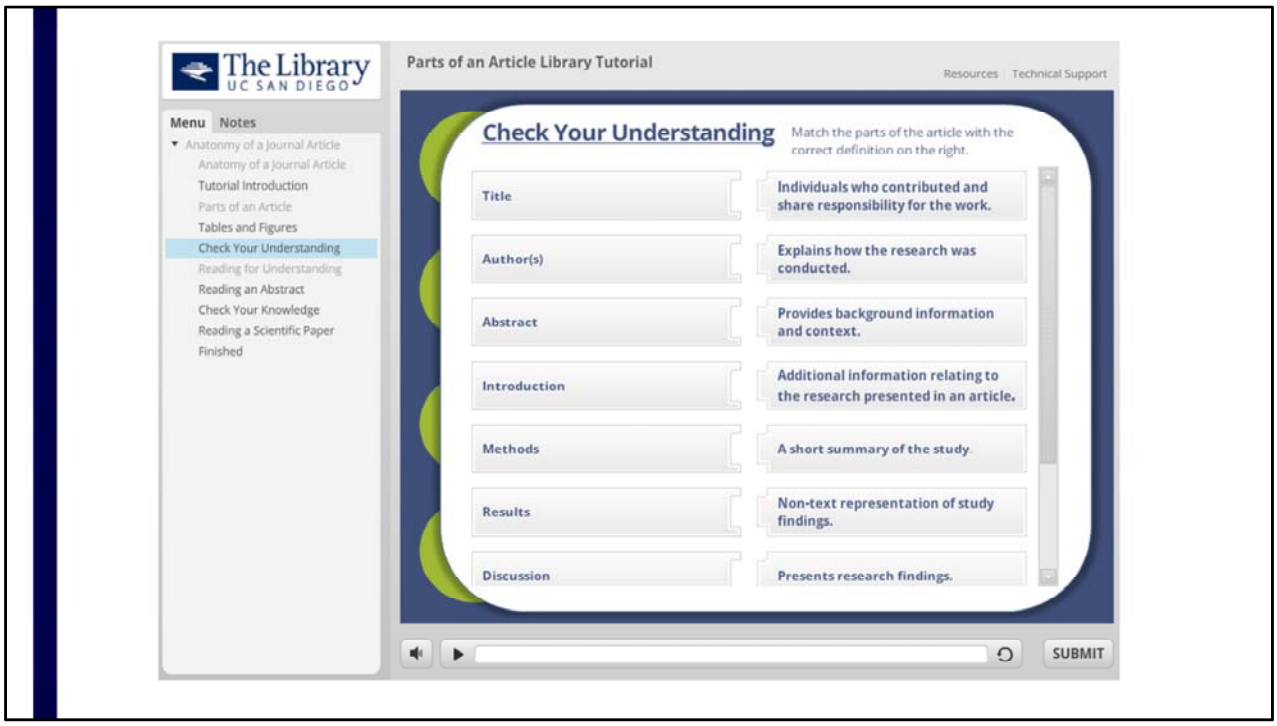

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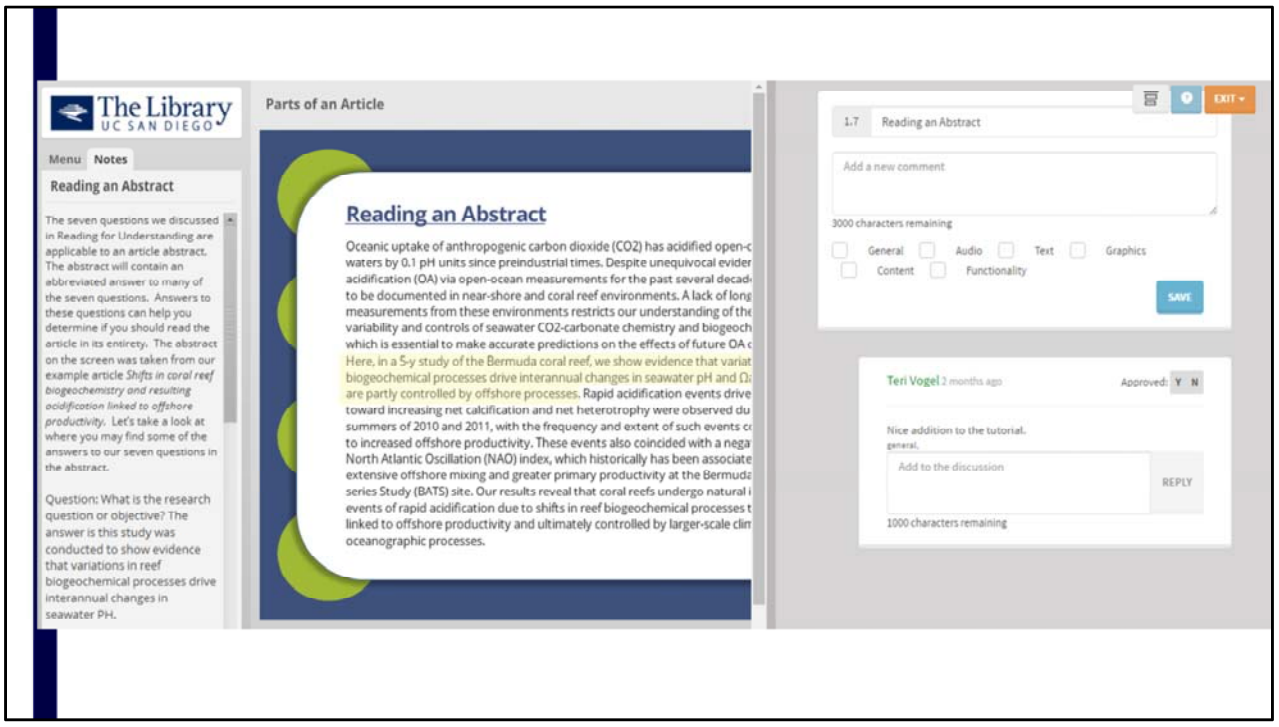
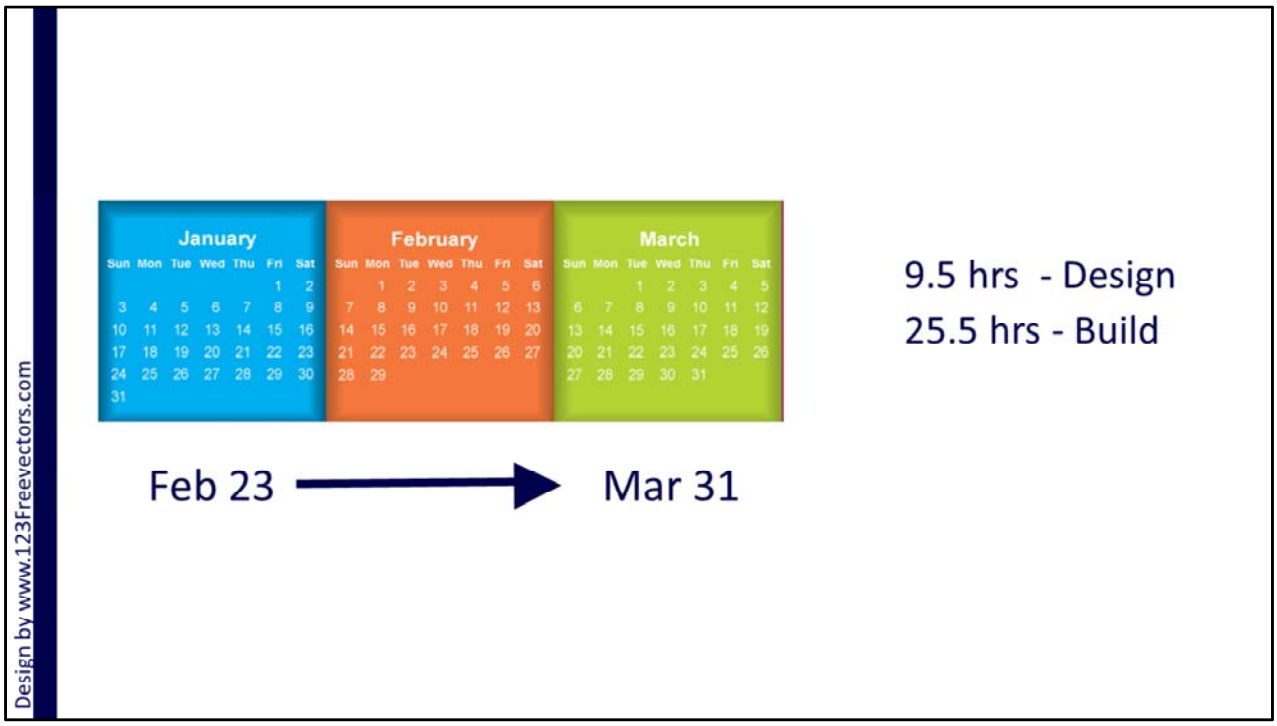


For getting our feedback, Dominique used Review My Elearning. As each slide is opened, we'd get this place on the right to make comments, and even identify the type of comment (graphics, content, etc.). Easy to stop & come back to where you left off.

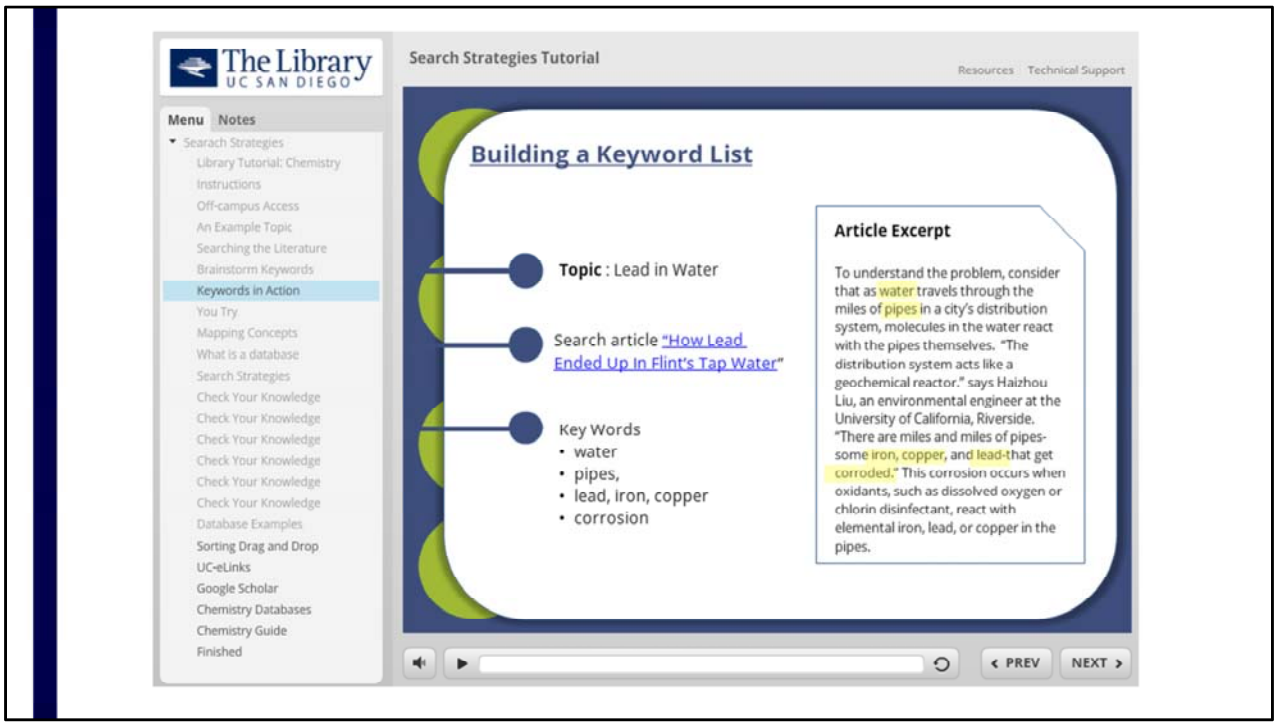
Stacey and I could see what the other had commented, give feedback on those comments, or I could agree with her rather than repeat the same suggestions.
Then Dominique and Amanda got a readable set of comments. It was everything any email chain is not – organized and efficient.



How much time was involved?
For Amanda and I believe Dominique : 9.5 hrs on the design, 25.5 hrs on the build
For the time spent on **discussing** for the design document, looking for good **content** that she could use, thoroughly **reviewing** each draft and giving **feedback**?
Not sure. I know it was a lot (didn't think to track)

We first met on Feb 23. Design document next day. Drafts went up Mar 18, Mar 23, and the final one Mar 31.

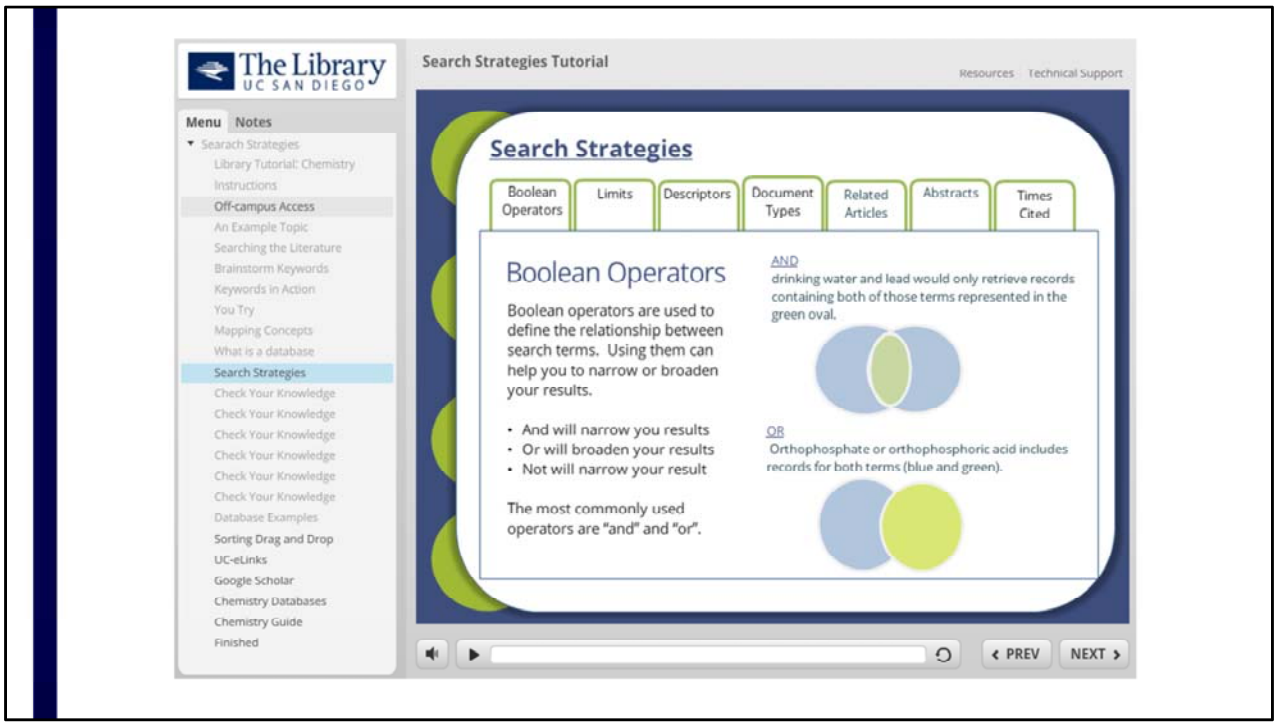
This was only one of the three. This was the last of the three, with some overlap in the timelines.
Amanda's design/build times on the others: 55 hrs on Search Strategies, 25.5 on the ACS Citations module.



Time commitment, but if it's built on good instructional design principles.

You now have a tutorial that can be adapted for other disciplines.

You're not starting from scratch, just new content (search topic, databases).



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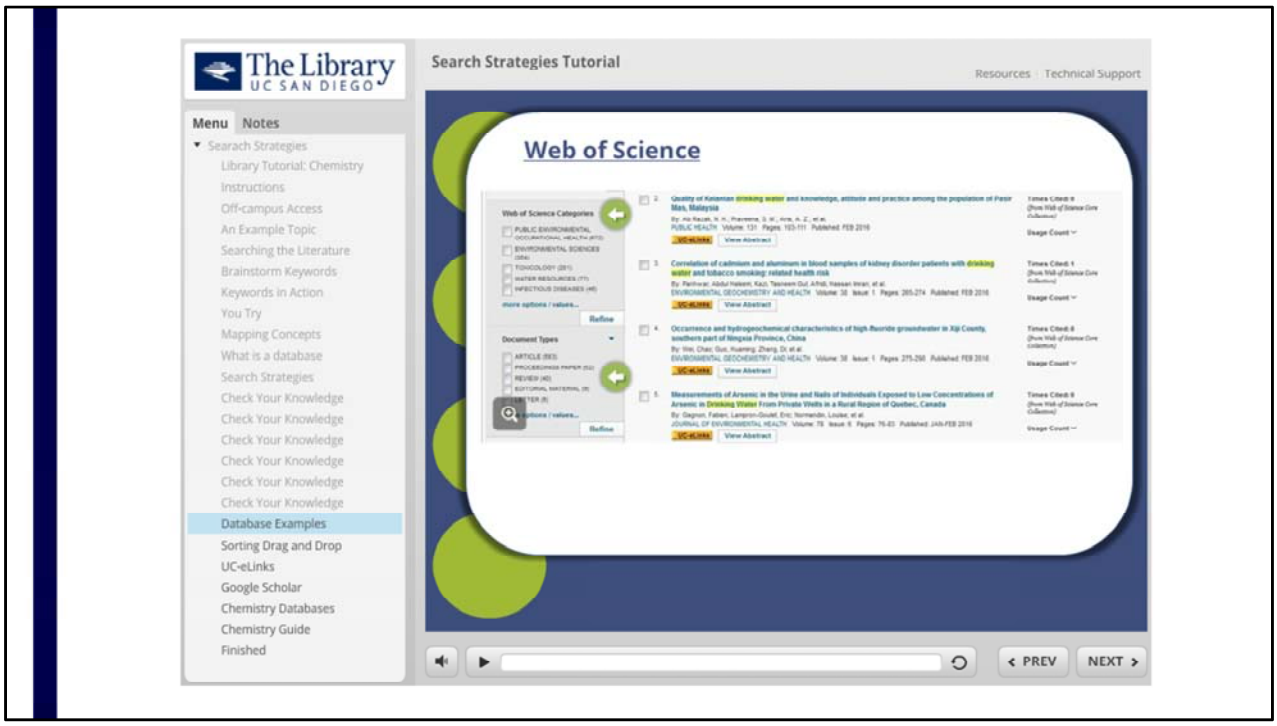

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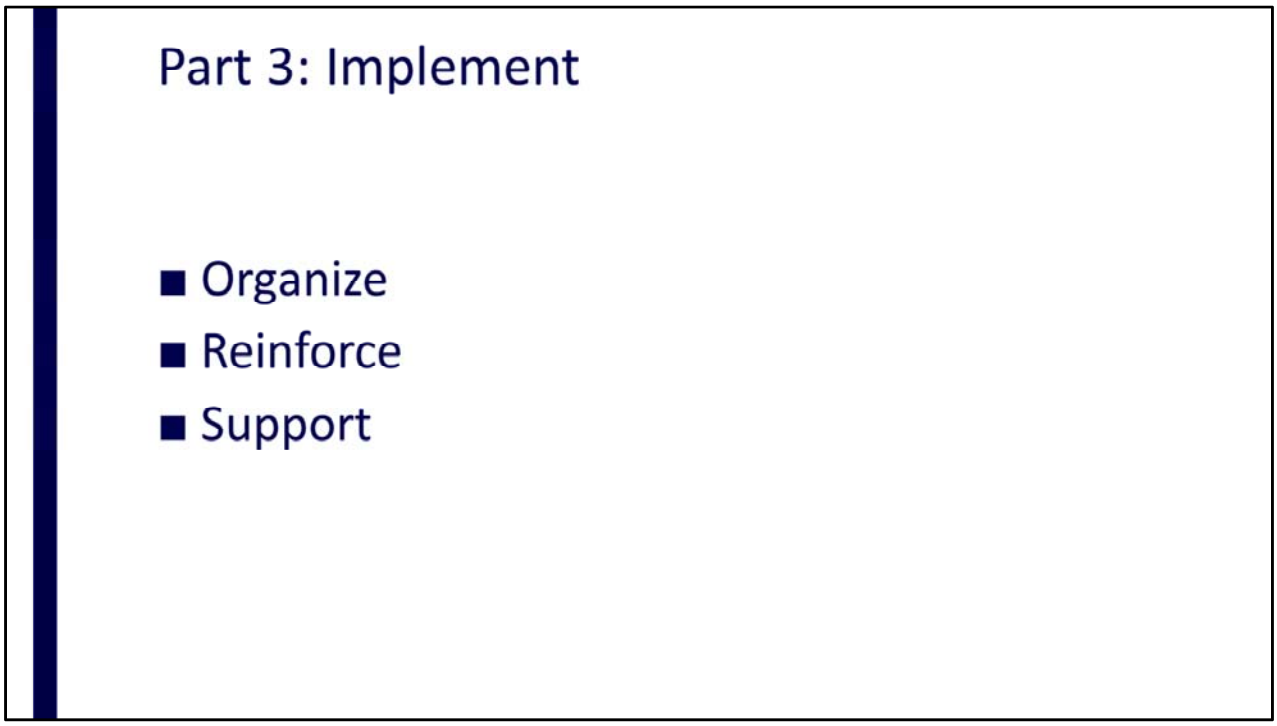
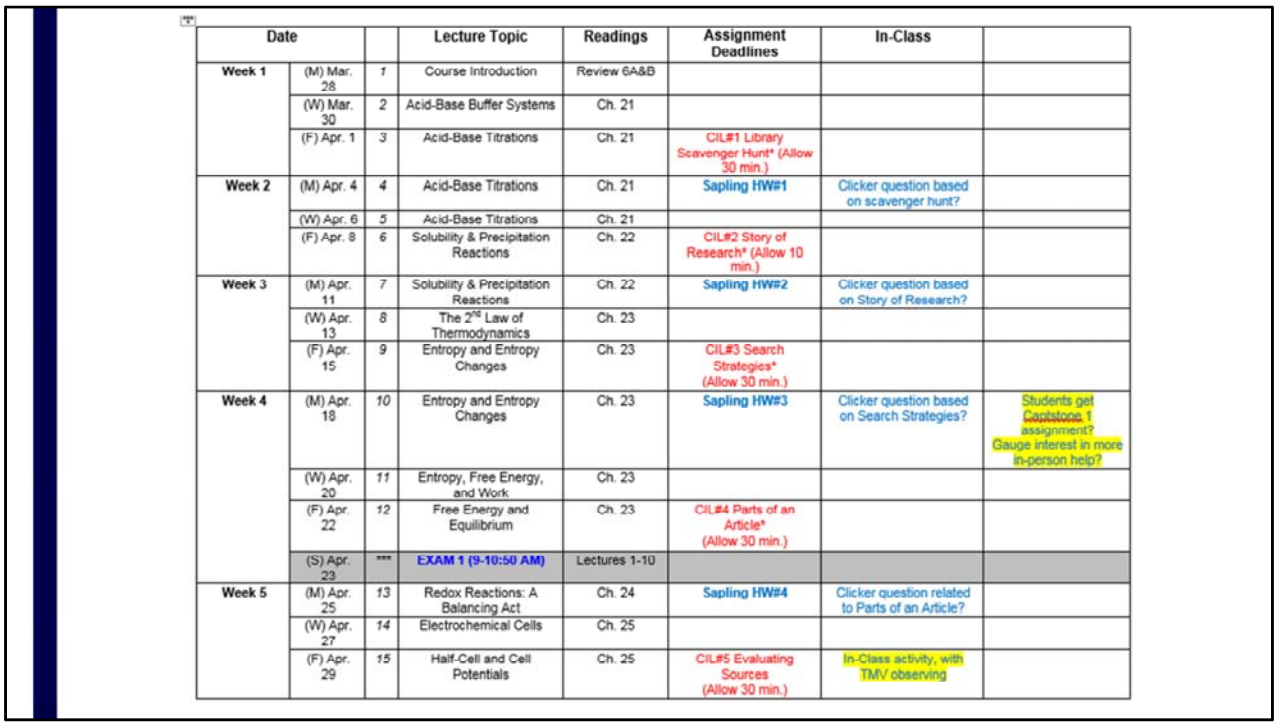


So the tutorials were done, but it's not like "upload the tutorials and turn them on whenever."

Organize
Dominique, Stacey and I met just before the quarter begin, and inserted each tutorial into the syllabus: when Stacey would activate each one in the course management system and due dates for the students to complete them.

We then met weekly through week 6 (progress reports, to do list for next week)

Reinforce
Tried to come up w/ clicker questions for each Monday. She already uses the clickers in her lecture, and she can use that authority she has as their professor to reinforce any concepts covered in the tutorials.
We also added 2 questions to include on the final exam: again covering those concepts

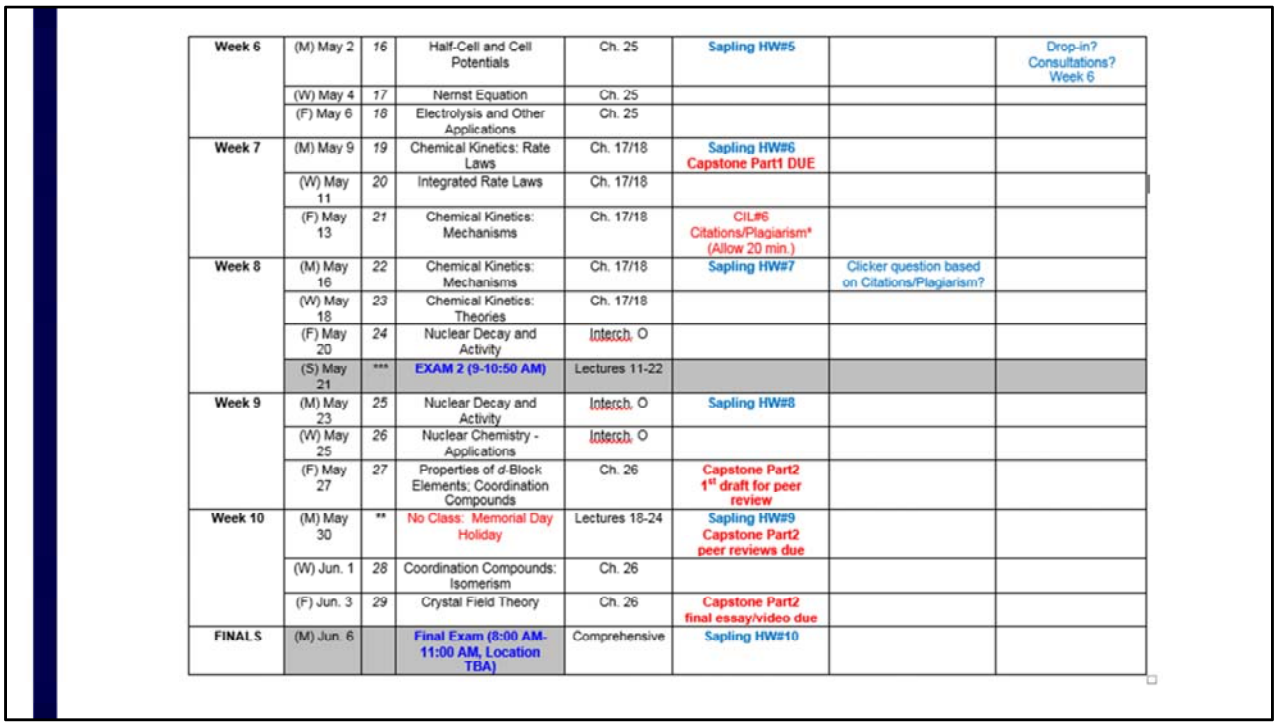


Date			Lecture Topic	Readings	Assignment Deadlines	In-Class	
Week 1	(M) Mar. 28	1	Course Introduction	Review 6A&B			
	(W) Mar. 30	2	Acid-Base Buffer Systems	Ch. 21			
	(F) Apr. 1	3	Acid-Base Titrations	Ch. 21	CIL#1 Library Scavenger Hunt* (Allow 30 min.)		
Week 2	(M) Apr. 4	4	Acid-Base Titrations	Ch. 21	Sapling HW#1	Clicker question based on scavenger hunt?	
	(W) Apr. 6	5	Acid-Base Titrations	Ch. 21			
	(F) Apr. 8	6	Solubility & Precipitation Reactions	Ch. 22	CIL#2 Story of Research* (Allow 10 min.)		
Week 3	(M) Apr. 11	7	Solubility & Precipitation Reactions	Ch. 22	Sapling HW#2	Clicker question based on Story of Research?	
	(W) Apr. 13	8	The 2nd Law of Thermodynamics	Ch. 23			
	(F) Apr. 15	9	Entropy and Entropy Changes	Ch. 23	CIL#3 Search Strategies* (Allow 30 min.)		
Week 4	(M) Apr. 18	10	Entropy and Entropy Changes	Ch. 23	Sapling HW#3	Clicker question based on Search Strategies?	Students get Capstone 1 assignment? Gauge interest in more in-person help?
	(W) Apr. 20	11	Entropy, Free Energy, and Work	Ch. 23			
	(F) Apr. 22	12	Free Energy and Equilibrium	Ch. 23	CIL#4 Parts of an Article* (Allow 30 min.)		
	(S) Apr. 23	***	EXAM 1 (9-10:50 AM)	Lectures 1-10			
Week 5	(M) Apr. 25	13	Redox Reactions: A Balancing Act	Ch. 24	Sapling HW#4	Clicker question related to Parts of an Article?	
	(W) Apr. 27	14	Electrochemical Cells	Ch. 25			
	(F) Apr. 29	15	Half-Cell and Cell Potentials	Ch. 25	CIL#5 Evaluating Sources (Allow 30 min.)	In-Class activity, with TMV observing	

We simply took Stacey's timeline and decided "this tutorial would get turned on Monday and they'd have until that Friday to complete"

Extremely helpful

- Made sure we were deploying these in order, and trying mindful of when they'd be focused on midterms
- Realized that the students didn't need to use ACS style for their lit search exercise (Capstone 1) since we put the tutorial on later
- Changed due dates, to give more time between lit exercise, draft submission (peer review), final submission
- After some discussion (and based on prior feedback), Stacey gave the Capstone more weight toward the final score (including the tutorials).



Week 6	(M) May 2	*16*	Half-Cell and Cell Potentials	Ch. 25	**Sapling HW#5**		Drop-in? Consultations? Week 6
	(W) May 4	*17*	Nernst Equation	Ch. 25			
	(F) May 6	*18*	Electrolysis and Other Applications	Ch. 25			
Week 7	(M) May 9	*19*	Chemical Kinetics: Rate Laws	Ch. 17/18	**Sapling HW#6** **Capstone Part1 DUE**		
	(W) May 11	*20*	Integrated Rate Laws	Ch. 17/18			
	(F) May 13	*21*	Chemical Kinetics: Mechanisms	Ch. 17/18	CIL#6 Citations/Plagiarism* (Allow 20 min.)		
Week 8	(M) May 16	*22*	Chemical Kinetics: Mechanisms	Ch. 17/18	**Sapling HW#7**	Clicker question based on Citations/Plagiarism?	
	(W) May 18	*23*	Chemical Kinetics: Theories	Ch. 17/18			
	(F) May 20	*24*	Nuclear Decay and Activity	Interch. O			
	(S) May 21	***	**EXAM 2 (9-10:50 AM)**	Lectures 11-22			
Week 9	(M) May 23	*25*	Nuclear Decay and Activity	Interch. O	**Sapling HW#8**		
	(W) May 25	*26*	Nuclear Chemistry - Applications	Interch. O			
	(F) May 27	*27*	Properties of *d*-Block Elements; Coordination Compounds	Ch. 26	**Capstone Part2 1st draft for peer review**		
Week 10	(M) May 30	**	No Class: Memorial Day Holiday	Lectures 18-24	**Sapling HW#9** **Capstone Part2 peer reviews due**		
	(W) Jun. 1	*28*	Coordination Compounds: Isomerism	Ch. 26			
	(F) Jun. 3	*29*	Crystal Field Theory	Ch. 26	**Capstone Part2 final essay/video due**		
FINALS	(M) Jun. 6		**Final Exam (8:00 AM-11:00 AM, Location TBA)**	Comprehensive	**Sapling HW#10**		

We simply took Stacey's timeline and decided "this tutorial would get turned on Monday and they'd have until that Friday to complete"

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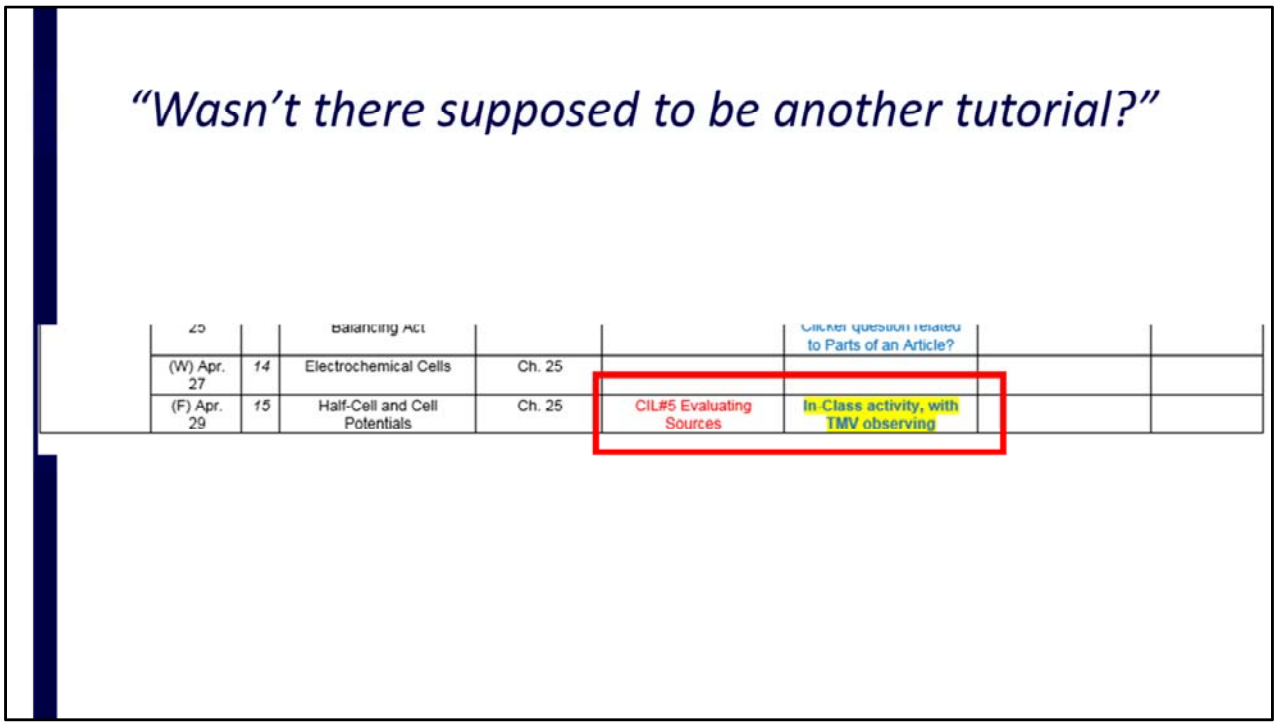
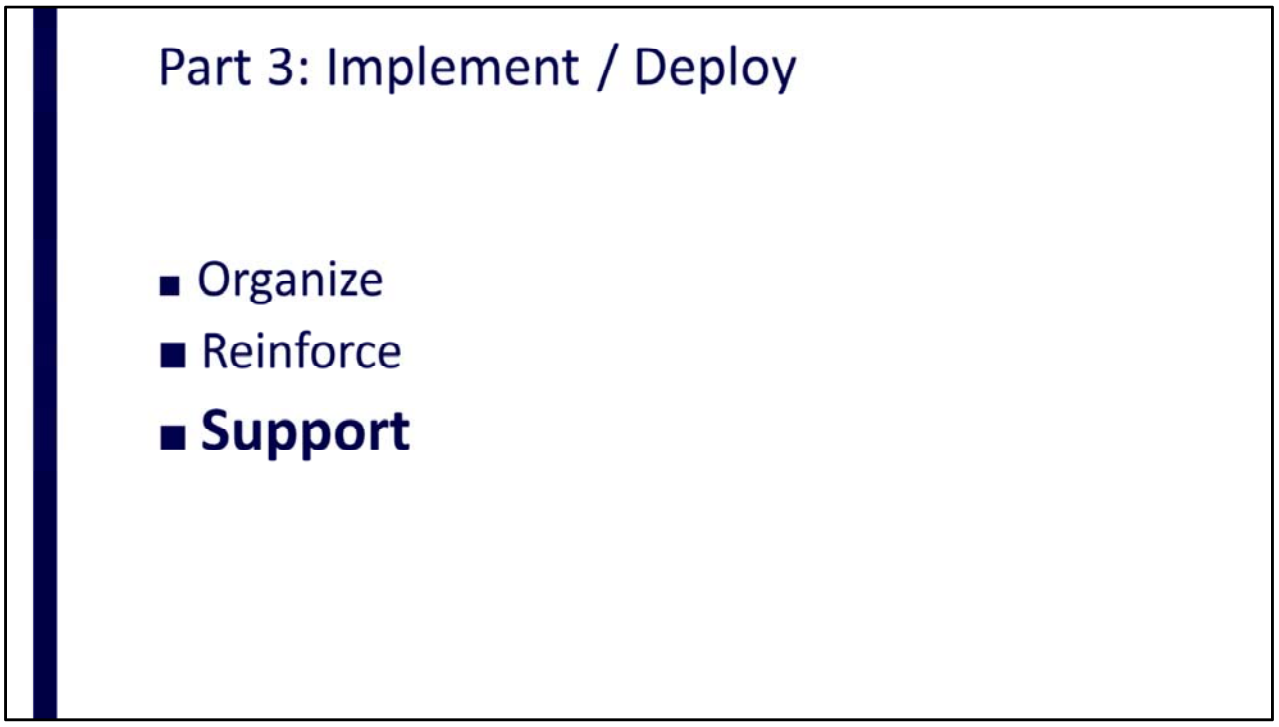


I mentioned earlier a tutorial on evaluating web resources. Well….

- Very early on, we identified this as an in-person activity, but we were interested in trying to make an online tutorial.
- We discussed, discussed some more. We talked about a "choose your own adventure" based on what students selected (website, journal article, etc). But time became a factor, along with going back to that original "what can and cannot be done in a tutorial."
- Went back to in-person, but with 300+ people and only 15 mins class time (which Stacey was OK with).

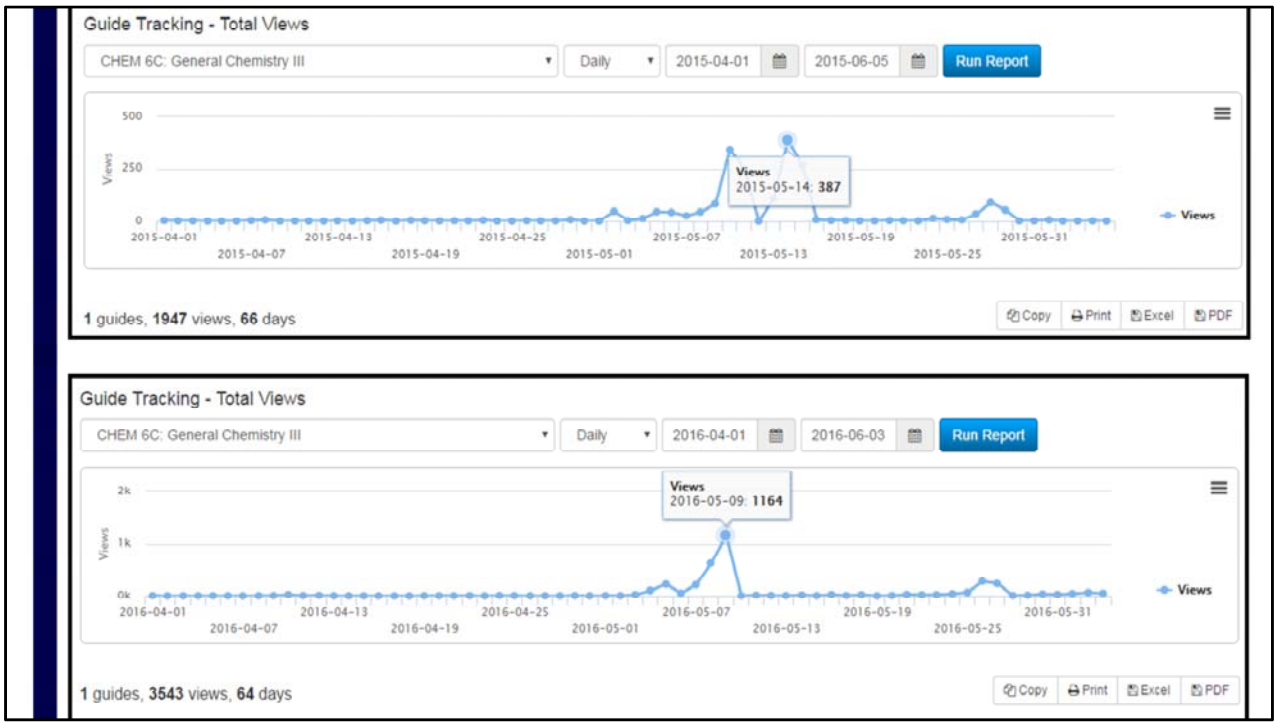
What we came up with:

- Online survey question – 3-5 reasons why EPA/FDA site might be better to use than bottledwater.org
- In-class: gave students a few minutes to discuss among themselves (think-pair), followed by Stacey leading brief discussion of who-what-when w/ one of the other sample websites I found. All three of us preferred the who-what-when over the CRAAP test.
- This may just be something that just won't lend itself well to interactive. Just a "checklist/guide" with the questions to consider, using 1-2 examples.
    - But we do have the student feedback that could inform future development for a tutorial.



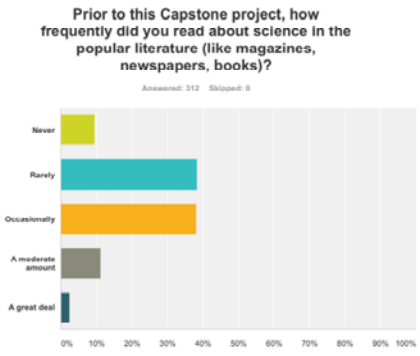
Another topic in those weekly meetings was what to do as far as librarian support

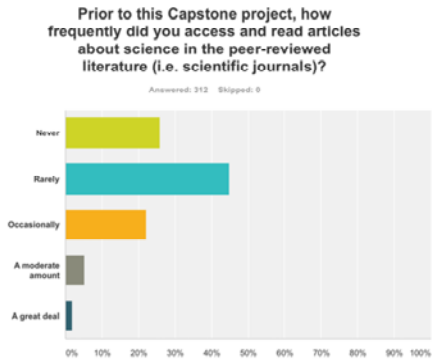
- Set up office hours in week 6 (4 blocks of time, ~2 hrs each), camped out in one of our classrooms.
    - Eight students in last 2 blocks. Students spent average of 1 hr there
    - Students were in “exploring topics” phase – looking for starting places to search for articles, encyclopedias
    - Obviously a small number of students, but the setup worked



- Improved LibGuide w/ content to complement the tutorials
    - Stats? Definitely higher this year, with peaks associated with due dates for the lit search exercise and first draft of the essays
- Email – questions, small number but deeper questions. Less “remote access,” more “next level.”

Students' Experience & Feedback

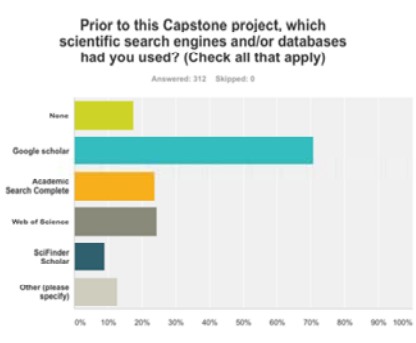


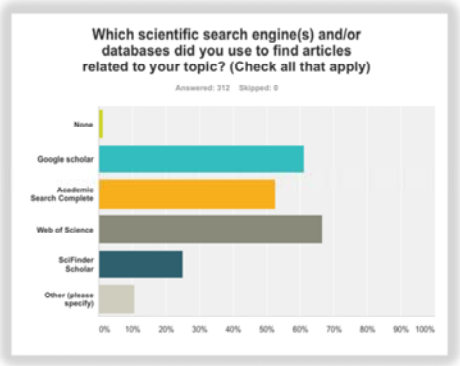


Stacey's been collecting this now for several years.

As you'll note, for many this is their first exposure to the scientific literature.

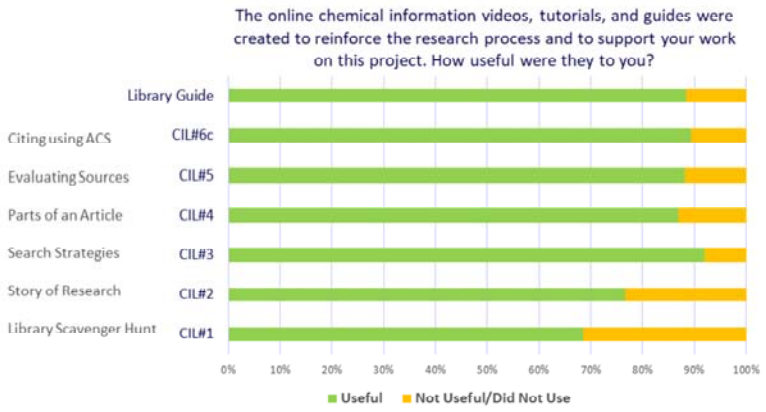
Students' Experience & Feedback





Also their exposure to databases for exploring the scientific literature.

Students' Experience & Feedback



And a question about the usefulness of the tutorials. So this is encouraging, but we'll need to review the feedback more thoroughly.

And now we're at the 4th stage – reflect and refine. What did we accomplish, what were the surprises, what's next

Reusable content for other chemistry courses, plus the potential for adaptation for other disciplines

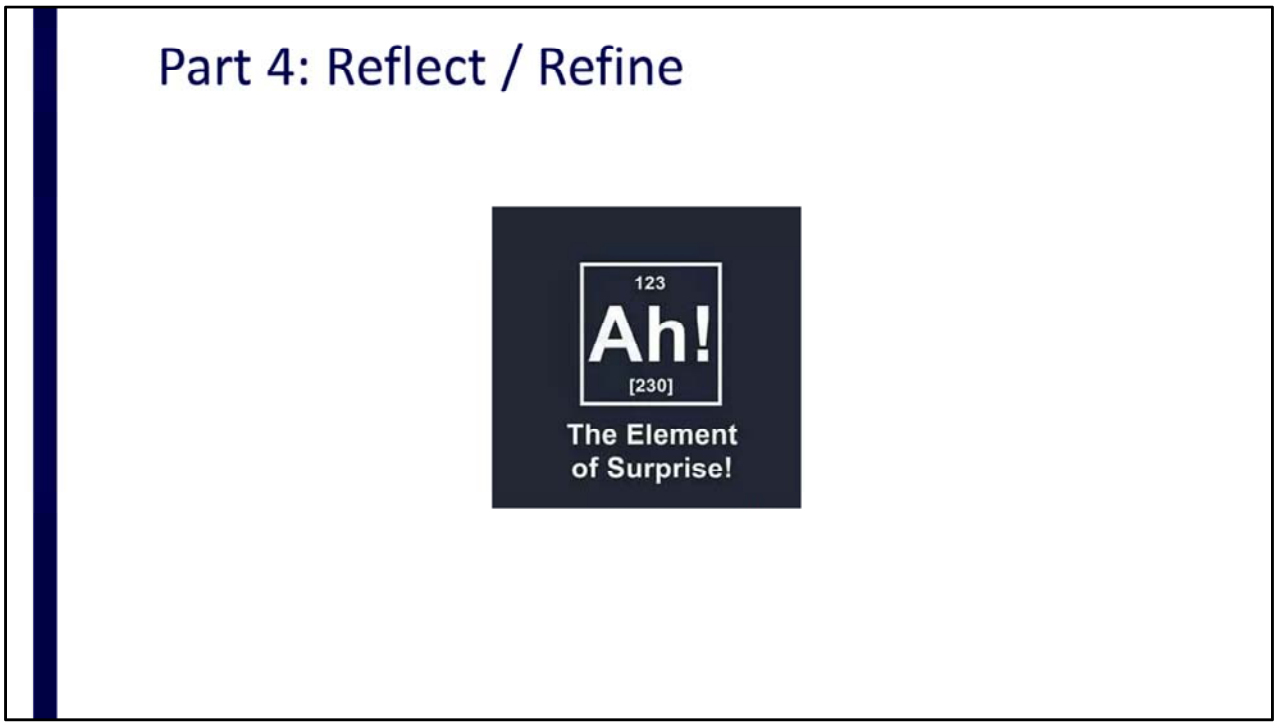
- Taking them out of the LMS for summer REU (Research Experiences for Undergraduates) students to view

Sustainability we now have tutorials for at least another year, so that's a LOT of time saved

Partnering with faculty for scaffolded information literacy – not done here at UCSD

Successful collaboration –I will say that none of this would've been possible without librarians who have the expertise and time to focus on instructional design and technology rather than being split to include subject liaison/collection work.

Will inform future instruction collaborations between subject librarians, faculty, and the instructional design team – communication, time & project management.



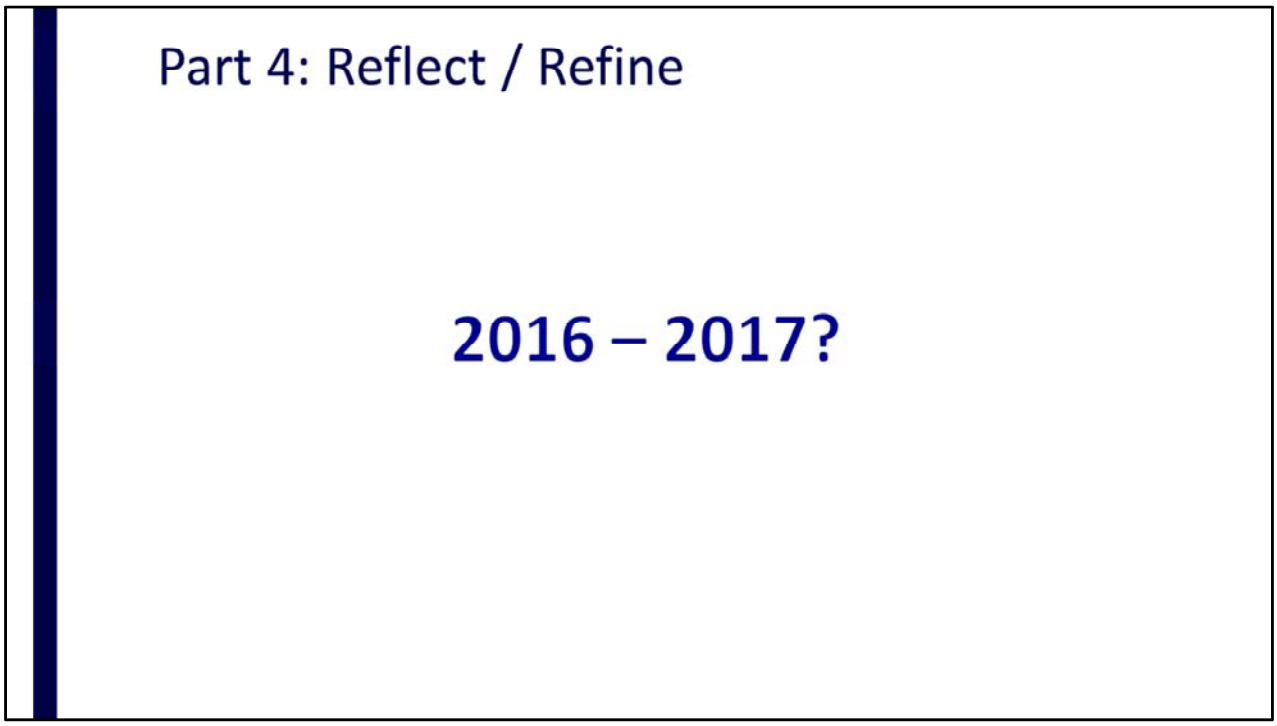
And what we didn't expect

Teri

- Amount of time. Partly because I didn't anticipate multiple tutorials, but just time with the meetings and reviewing drafts.
- Time spent on finding content. Different than w/ one-shots where if I don't like I search I can come up with something else before the class—couldn't do this when Amanda was building tutorials off of it

Dominique
Project management (weekly vs big picture) – trying to do these simultaneously didn't always work (got caught up in weekly, lost track of big picture)

Amanda
Challenge of condensing what you would say in a one-shot (say stuff on the fly, point out exceptions to rules, etc) and pare it down to a 20-30 minute tutorial.



Debrief in July (Dominique, Stacey, Teri)

- Review how this went
- Look at the capstone survey data, which Stacey has been collecting
- Figure out what to do this year
    - Review collection of tutorials – something for primary vs secondary vs tertiary sources?
    - Stacey teaching 6C Winter and Spring (one winter session) – 2 rounds of the Capstone & tutorials
        - More time to plan how to deploy tutorials, support capstone assignment (busy time of year, BUT we have experience of this spring + not spending time on tutorial development)
    - Revisit "Evaluating Websites"
    - Improving the LibGuide (more examples of ACS styles)

- Share w/ other faculty, CAMSEE?
- Look at whether student feedback, quality of essays/videos, quality of cited sources have changed with introduction of tutorials.

If you have specific questions, here are our emails.

And thank you.