

Lesson Plan: Reliable Internet Searches in Maine-based Businesses

(for Unit 1: Human Computer Interactions HCI)

OVERVIEW

Purpose of this lesson

These video lessons are meant to show students that:

- a. computational thinking is part of everyday jobs in their local area, and
- b. not all “computer science” related jobs involve programming.

They are also meant to support one or more of the Computational Practices listed in the ECS curriculum (from p. 12 in ver. 7). Which computational practices best align will depend on the approach each teacher takes with the lesson, so once you determine your approach you can emphasize the relevant practices with students.

ECS Computational Practices:

- Analyze the effects of developments in computing (impact/connections)
- Design and implement creative solutions and artifacts
- Apply abstractions and models
- Analyze their computational work and the work of others
- Communicate computational thought processes, procedures, and results to others
- Collaborate with peers on computing activities

This particular lesson illustrates the need to conduct reliable internet searches on the job, in this case, as a dental hygienist in Augusta, ME.

There are many directions one might take with this topic that go beyond the scope of what we are trying to accomplish in providing these videos and sample lesson plans. Thus we strive to keep them aligned with the goals above. We know you will adapt these to suit your needs.

We suggest you use this video as an introduction to the Human Computer Interactions (HCI) unit, or early in it, to emphasize (a) one or more of the computational practices listed above and which are being encompassed in jobs all around the state, and (b) that appropriate uses of computers are part of computer science.

ECS connections

This introductory lesson addresses the following objectives introduced in ECS Unit 1: Human Computer Interactions (ver. 7, p. 20):

- Use appropriate tools and methods to execute internet searches which yield requested data.
- Evaluate the results of web searches and the reliability of information found on the internet.



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ACTIVITY INSTRUCTIONS

Engage

Have students engage in one or more of the following.

1. Surprise them! Come to class excited/concerned about something you saw online (Internet, Facebook, whatever).
 - a. Project the information on a screen or have students navigate to the specific piece to read for themselves.
 - b. Allow them to discuss what they've read.
 - c. Reveal that it's a hoax, and then have a follow-up discussion that at least includes question 1b below.*
 - d. Check out <http://www.snopes.com> for ideas. (*A classic- concerns over the "hazardous chemical" dihydrogen monoxide. It even has a website: <http://www.dhmo.org>.*)
2. In small groups and/or as a whole class, have students discuss what they know or think they know about determining the reliability of information found on the internet and in social media.
 - a. How might you do an internet search for reliable information on something you don't know about?
 - b. How can you tell if information you see online, including on social media, is true or reliable?
 - c. Are you familiar with/have you fallen for any online hoaxes?
 - d. When/how did you eventually find out it wasn't real?
 - e. What types of internet searches might a dental hygienist need to do? What types of false information might be important for a dental hygienist to know about?

Explore/Explain

Have students do one or more of the following.

1. Show students the Dental Hygienist video (<https://youtu.be/DZnmIfu5-pg>) about Internet searches. Help them connect this to the **Engage** activity they did. For example:
 - a. Listen for the types of Internet searches this dental hygienist does.
 - b. Ask - What types of false information does she encounter?

After the video, have students brainstorm other local jobs that likely need to concern themselves with finding reliable information on the Internet or through social media.

* If you use this option, be sure to do so before any talk about reliability of online information or they may not fall for it.



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2. Have students conduct local interviews with people who, in their jobs, need to find reliable information via the internet or social media. Have students brainstorm interview questions in advance (*sample questions follow*). Have students report back to the class about the experience.

Sample Interview Questions:

1. Can you tell me a bit about what kinds of online searches you do?
2. What's something you've been looking for recently?
3. How do you know where to look?
4. Have you ever found things online that you felt you couldn't really use because you didn't really trust the information?
5. How do you determine if the information you find is trustworthy?
6. Why does the information have to be correct and reliable? What would happen if it wasn't?
7. Is there anything you can show us to get a sense of the Internet searches you do, and what you do with that information?

3. Potential formats:
 - a. Low tech: Class discussion, write a story or news report
 - b. Mid-tech: Create a slideshow
 - c. High tech: Plan ahead to video record the interview, then edit it for sharing, making it engaging.

Explain/Elaborate

Have students do one or more of the following.

1. After showing the dental hygienist video, conduct another discussion to address questions such as the following.
 - a. How did the hygienist use the internet in her work?
 - b. Why was it important for her to have reliable information?
 - c. What are some ways she used to determine whether or not information from the internet was reliable?
 - d. What other jobs can you think of where a person would need to be able to search and evaluate the quality of information they find online?
 - e. ***With older students, in addition to the above, consider including these questions in the discussion.***
 - i. "News" articles are often considered "reliable". Think of the last time you read a "news" article you found online or on Facebook.
 1. How accurate do you think it was? How do you know?
 2. What kinds of things are especially difficult to trust in online news articles? Why?



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3. How might journalists improve the reliability of the news articles they write?
2. Assign students to conduct an online search about a topic with which they are unfamiliar. Have them identify 3-5 sources they deem reliable and include a 1-3 sentence explanation for each, justifying its reliability. *(This could also serve as an extension of ECS Unit 1, Days 5-7, the "Hands-on evaluation of websites" activity.)*
3. Have students examine hoaxes that have appeared over the past 3 years in various online media. They might comb through their own social media accounts, poll their classmates, or conduct their own online research. Consider the following.
 - a. How do these hoaxes originate?
 - b. How are they perpetuated?
 - c. How extensive are these hoaxes?
 - d. How and when are they debunked?

Evaluate

We have not included any evaluation at this point since teachers have many directions they can take with this lesson, but suggest that an evaluation or assessment for formative purposes will be useful.



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