Media Literacy Resources for Website Credibility
Niall McFadyen
Original Version 2017, Revised February 2019

Part A: General Strategies

Category:	**Description**
Learning Problem	The learning problem identified is to teach students "defined concepts" of credible and non-credible websites. This has been produced for the development of a grade 6 course titled "Inquiry, Research, and Literacy with Technology". This course requires students to develop literacy and research skills with technology through students' individual research and presentation of information through a blog website. The class is loosely based on the province of Manitoba's "Literacy with ICT" continuum, which contains very general non-specific outcomes. Although this class has been taught before, no resources exist as individual teachers have taught the class on their own with no shared or common expectations or goals from year to year. The resources that are designed for the course also have the goal to serve as a guideline for future instructors, which can be adapted and modified to meet the individual needs of students as well as the strengths and competencies of the instructors. The concepts are considered "Defined Concepts" as the idea of credible websites needs to fit with established criteria as to what "credible" actually means.
General Strategy Overview	**Overview:** For this prototype, a general strategy has been developed to use a combination of generative and supplantive strategies. This choice has been made as the concepts and sources students will evaluate are dynamic, and can change from one website to another. It is important for the learner to develop a relation between the terms and their own cognitive processing by developing their own thinking process in relation to the concept. The overall strategy will be to begin with a generative inquiry strategy, while following up with more supplantive strategies to support learning where needed. The strategies will be outlined in a sequence for the teacher to implement as she sees fit. **Rationale:** Because the learners are in grade 6, it is likely that they have prior knowledge and experience using the internet which can be drawn upon to help promote generative learning. However, these students may not have prior knowledge about credibility of websites, which may be problematic for a

	generative approach, thus supplantive strategies could be beneficial. The aim of this prototype is to take advantage of the suggestions made by Smith and Ragan (2005, p. 142) regarding generative strategies; that if a learner can relate information to their own cognitive structure, they can develop a greater depth of processing and better learning, while also considering the negative factors regarding generative strategies in regards to high demand on cognitive load which can lead to cognitive overload, emotional frustration, and detraction from learning (2005, p. 142).
Generative Solutions	The prototype will initially use a concept attainment activity to generate learner thoughts and help them relate the concept to their own prior knowledge. There will also be a rational set generator that can be used as a generative strategy if the teacher decides to have students generate the content. Generative strategies are appropriate for this learning situation as the task is non hazardous. The learners have some prior knowledge of using the internet and are flexible in terms of time commitment. Ultimately in this context the goals are not universal, as it would be acceptable for each student to develop different strategies and processes for identifying credible websites. There is also ample time for students to learn the material throughout the length of the course, as it is ongoing throughout the school year. The reasons outlined above connect to the choice of instructional strategies model illustrated by Smith and Ragan (2005, p. 142). The strategy for this learning problem is outlined in the specific strategies section of this document..
Supplantive Solutions	Following the generative strategy, supplantive strategies will also be used to fill in gaps, support the generative learning, and ensure that learners use common language. These strategies are appropriate as the learners may have few cognitive strategies for reading a website, thus explicit and scaffolded instruction would be important. Similarly, although the task as a whole is complex, there are many facets of the task that are simple thus appropriate for supplantive learning. In terms of the context, despite the class being an ongoing year long class, individual periods contain limited time which could make supplantive solutions ideal, if the generative solutions are not sufficient. These reasons also connect to Smith and Ragan's instructional strategies model (2005, p.142). These supplantive strategies will use printed documents, a rational set generator, a set of presentation slides, and prompts for teacher instruction,. This will be done using a sequencing strategy that reflects Robert Gagne'e events of instruction while also considering the elaboration theory of instruction from Charles Reigeluth.

Strategy Type	**Description**
Organizational Strategies	Organizational strategies will be used to sequence the content being learned. The sequencing of the lessons will follow the general pattern outlined by Smith and Ragan (2005, p.129) which includes introduction, body, conclusion, and assessment. The prototype will also include elements taken from Gagne's (1977) events of instruction and will also use the cognitive process approach outlined by Smith and Ragan (2005, p.129-130) including elements such as practice and feedback. Because this prototype will be implemented by the teacher in the classroom, the organizational layout will follow a lesson structure that is typical of a school classroom that can be applied over several class periods. The content of the prototype will be segmented into different learning strategies. It will begin with a strategy based on generative strategy based on the Joyce and Weil (1996) concept attainment model. This will be followed by supportive strategies that will use Reigeluth's elaboration theory of instruction (1979) and a rational set generator. All of these strategies will be presented in teacher guided lessons.
Delivery Strategies	The requirement of this course is that a combination of printed and digital content be used. Primarily, most of the instruction will be done in class by the teacher, and will require students to complete printed assignments. For this individual section this prototype will include a lesson outline for the teacher, printed handouts and worksheets for the students, a set of digital presentation slides, and a printed assessment question. The sequencing of the lesson will indicate to the teacher what students should be doing and when. Students will be grouped by the teacher based on her own assessments of their group and social behaviours. The prototype will require students to engage in group discussions (both small group 3-4 students, as well as whole class discussions) and complete independent work. Individual student research will be presented using the Weebly for Education platform.
Management Strategies	The management of this prototype will be done primarily by the teacher and administration of the school. The administration is responsible for providing resources such as classroom space, books, and computers to the teacher. The teacher is responsible for allocating class time, supplies, user accounts, and

	computers to students. In case of technology problems, the teacher will contact the information technology department to solve potential issues.

Specific Strategies

Type of Learning: Concept Learning

Outcomes:

- Students will understand criteria of what makes a credible website.
- Students will be able to identify credible websites.

Specific Learning Strategies (Concept Learning):

Concept Learning Strategy	**Description of Strategy**
General Outline (Gagne's Nine Events) *See teacher outline later in document for more specifics.*	**Gain attention**: Learners will be shown an example of an online source where a ludicrous claim is made. Students will be asked "What do they think of this"? **Inform learners of objectives**: Learners will receive the statement that the goal of this instruction is to learn how to determine if a website is a credible source or a non-credible source. **Recall Prior learning**: Learners will be prompted and asked to share their own experiences on using the internet in an open class discussion. **Implement Learning Strategies**: a. Learners will be presented content initially through an inquiry approach using Joyce and Weils "concept attainment model". b. Supplantive instruction using Reigeluth's "elaboration theory". c. Supplantive instruction with "rational set generator". d. Continual formative assessment on student progress with suggestions for individual students based on learning. **Practice**: Learners will be given websites to evaluate through the use of the rational set generator and anecdotal comments. **Provide feedback**: By teacher and in additional print/video resource.

	Review: Teacher will review areas that are needed. **Assessment question**: Learners will be given an assessment question to respond to. **Transfer learning**: Learners will be asked to look at some of the research that they have already done and go back and determine if their source was credible. **Continual Assessment**: Because this is an ongoing school class, learners will be continually assessed as they research to ensure that they are using reliable sources.
Concept attainment model inquiry strategy	Through a teacher led session, learners will be presented with a variety of examples, some labelled "yes", others labelled "no. Learners will guess why examples are labelled the way that they are, and will be encouraged to develop a hypothesis which they can then formalize in a statement. This will be completed using a printed document as well as a slideshow presentation that will feature webpages.
Elaboration Theory-Slides/Notes	The instruction will also be organized from the elaboration theory of instruction developed by Charles Reigeluth and outlined in his article *In Search of Better Way to Organize Instruction: The Elaboration Theory* (1979). This will be done by beginning with an epitome or overview of the concept of credible websites, and then breaking down aspects of this concept using what Reigeluth calls "level-1" elaboration. Each elaboration will provide more detailed and complex knowledge on each aspect related to "credible websites", and will take into account the learning and cognitive load of the student. This will be followed by a summarizer connected to the expanded epitome. This is designed to take advantage of Reigeluth's argument that if instruction is organized in this way it can result in "higher levels of learning, synthesis, retention, and affect". This strategy will use the zoom lense analogy by initially providing an overview of credible websites, followed by examining specific aspects, then relating them back to the overview. The aspects examined will include bias, type of site, date, author and qualifications, confirmation of information, professional appearance, citations, and contact information. *Note: It is important to note that for the design of this prototype, elaboration theory is being used as a supportive and supplantive strategy to the concept attainment strategy outlined above. It will be used under the judgement and*

	management of the teacher to support areas that are needed.
Rational set generator	Learners will be asked to generate qualities of pre established criteria for credible websites. The teacher will go through an ideal set of criteria that can be modified with student generated information. This will be indicated in a printed document but will be supplemented by the teacher. They will see an example developed in a rational set generator. Learners will be provided with their own worksheet based on the rational set generator to practice evaluating websites.

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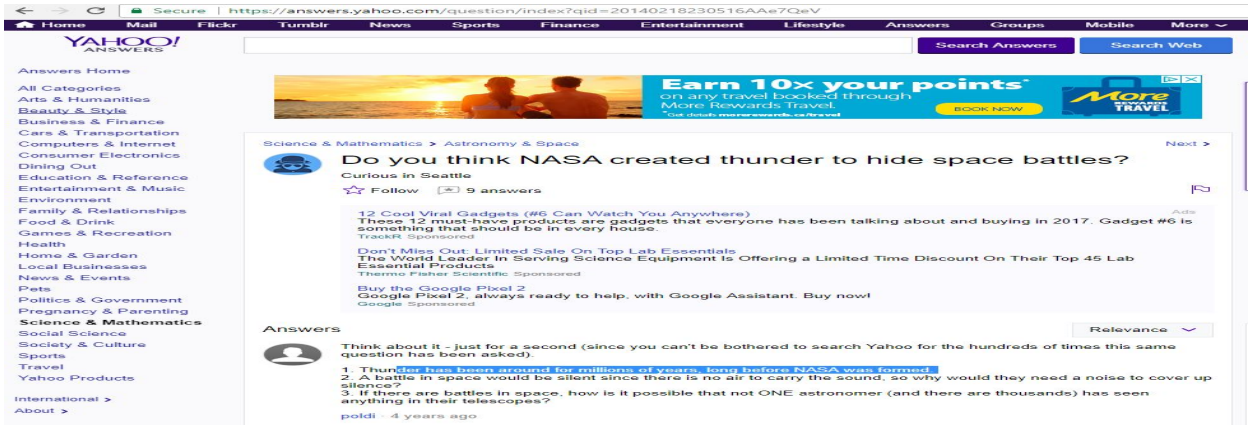
Lesson Outline:

The outline here is designed for the teacher to use to implement strategies. It uses an adapted version of Robert Gagne's events of instruction.

Gain attention: On the classroom projector paste the following image/web page (Yahoo Answers Nasa Space Battles). Students will be asked "What do they think of this"?

https://answers.yahoo.com/question/index?qid=20140218230516AAe7QeV



Inform learners of objectives: Learners will receive the statement that the goal of this instruction is to learn how to determine if a website is a credible and reliable and good for their research.

Prior learning: Learners will be prompted and asked to share their own experiences on using the internet in an open class discussion. Students will be asked to review prerequisites.

Learning Strategies: Four strategies will be employed in this section.

1. The class will do the "Concept Attainment" activity (see outline and handouts). This is a generative strategy.
2. In the same period or in additional periods, present students with the "Elaboration Theory" slides. The amount of time spent on this will be up to the teacher based on their assessment of whether the students have understood the concepts. This is intended to be a supplantive strategy.
3. Present students with the "Rational Set Generator" relating to website credibility. In a class discussion learners will determine criteria for the rational set generator which can also be amended if the teacher sees fit to make it reflect the template that is provided. Use the handouts to evaluate websites with students and for independent student practice.

Practice: Provide learners the following websites to evaluate using their rational set generator handouts and by writing anecdotal comments. (Handout located later in document)

https://mars.nasa.gov/

https://www.canada.ca/en/canadian-heritage/services/history-canada.html

http://www.geoffmetcalf.com/bread.html

Provide feedback: Review the practice work of the students either individually or in a group setting. Provide learning guidance and support if needed. Learning strategies can be revisited if needed. This can happen in a whole class discussion as well as one on one meetings with students. Additional practice websites may be needed.

Review: If needed the teacher will review aspects where students had difficulty.

Assessment question: Provide learners with the assessment questions. Learners will submit three separate short answer questions where they will explain whether or not they think a website is reliable by indicating factors such as the author, the domain, type of site, etc.. The teacher will have ongoing discussions with the learners about their progress developing strategies to evaluate websites.

Take in and evaluate with the rubric.

Transfer learning: In a printed handout, students will be asked to look back at their previous research and reflect on if they used credible sources. Students will be encouraged to bring these up in a class discussion being encouraged to use the terms credible and reliable as much as possible.

Continually Assess: Because this is an ongoing class where students conduct their own research, the process of using reliable and credible sources will be continually assessed so that students continue to apply their learning throughout the course.

Concept Attainment Model Inquiry Strategy

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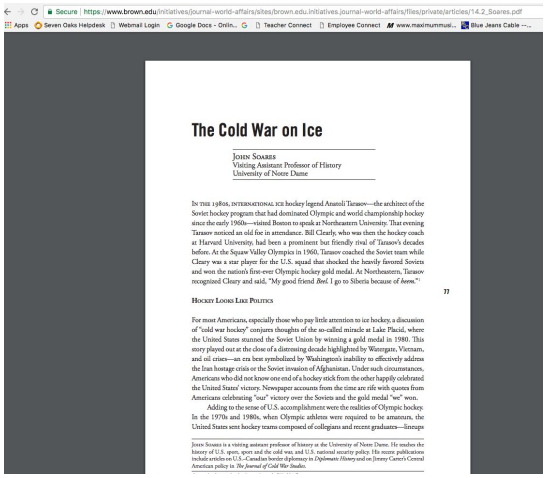
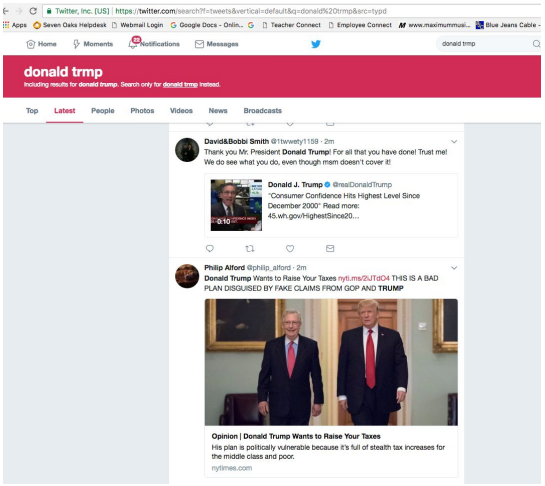
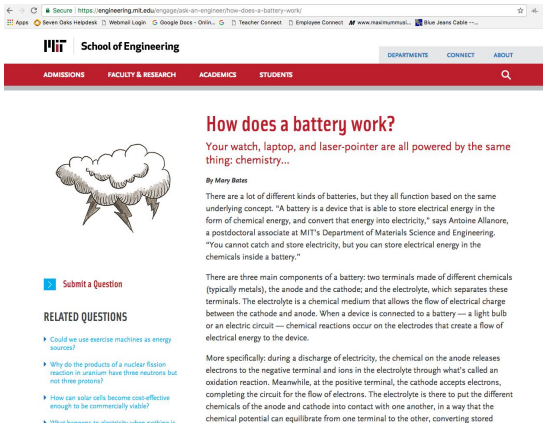
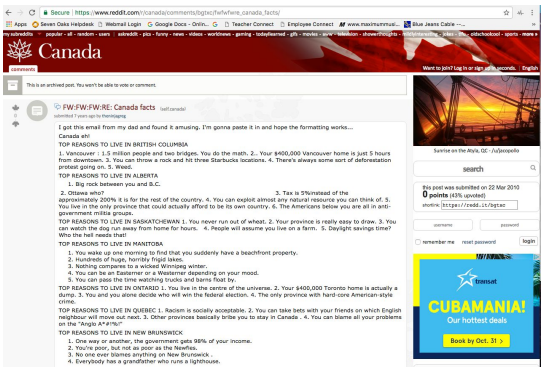
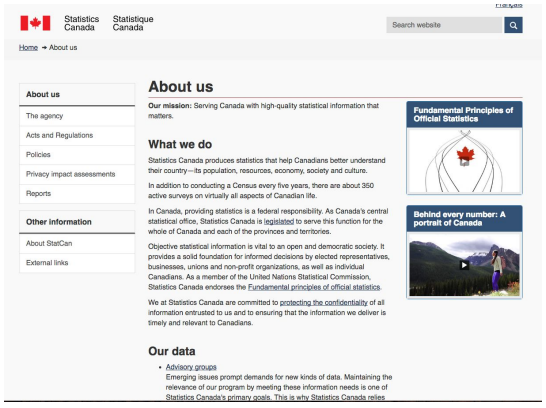
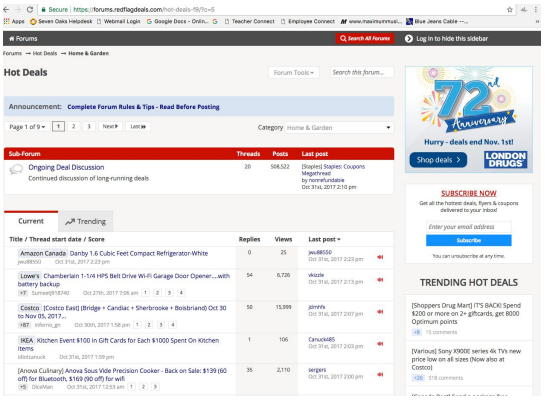
This strategy is adapted from the book *Models of Teaching* (1996) written by Bruce Joyce and Marsha Weil. Students will be presented with website examples that are labelled "yes" for credible websites, and "no" for non credible sites.

Steps	Rationale
The teacher will assign students into groups of approximately four students. Groups should be divided so that each group contains students who can contribute different perspectives to the conversations.	The teacher knows the students in the class and will have an understanding of individual students and group dynamics.
Each group of students will be given a package of website examples labelled "yes" and "no". The teacher will ask students in their groups to spend about ten minutes looking and the examples and talk with their peers about why the examples are labelled the way that they are while comparing attributes of both sets.	These discussions will be facilitated by the teacher.
Each group will be asked to share their responses in a class discussion. The teacher will facilitate the discussion giving support while emphasizing the hypothetical.	This is intended for each group to share their thoughts while allowing other groups to benefit by hearing the responses of their peers.
Students will be asked individually to generate their own hypothesis as to why some examples are labelled "yes" and some are "no"	This will be an opportunity for students to generate their own understandings of website credibility.
Students will be shown two additional examples of "yes" and "no", and will be asked to identify if their hypothesis holds true. If it does not, students will be asked to revise.	This is an opportunity for the students to revise as well as receive teacher feedback.
The teacher will receive the student's hypothesis and provide feedback as to whether the students have a functional understanding of what a credible website is. This can be individual or in groups.	This is an opportunity for the teacher to provide feedback and see where students are in relation to understanding the concept of credible websites.
Students will be asked to identify additional examples as yes or no, and will be tasked to find their own examples of "yes" and "no" websites.	This will allow students to practice identifying credible online sources.

Concept Attainment Model Yes/No Examples:

These are to be printed or shared electronically for each group of students.

Yes	No
	
	
	

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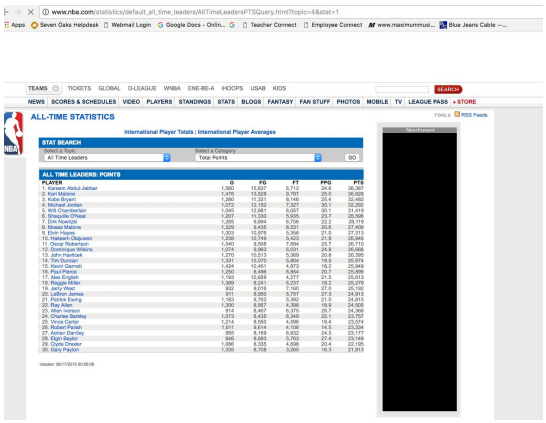

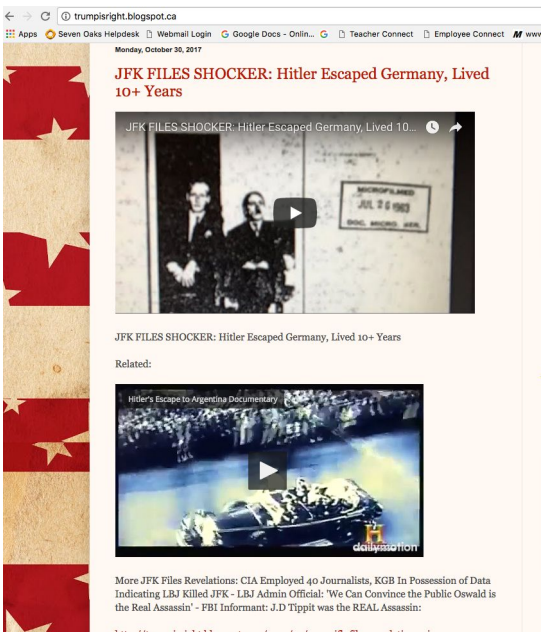

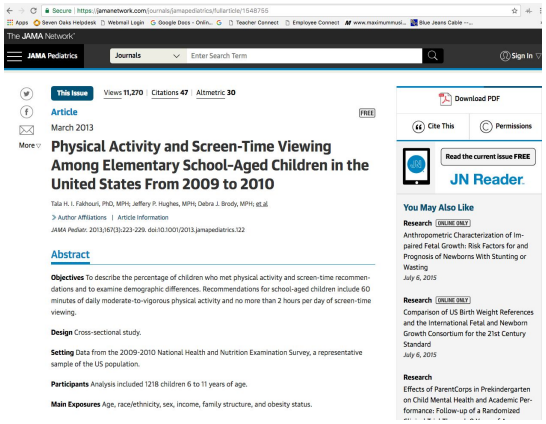

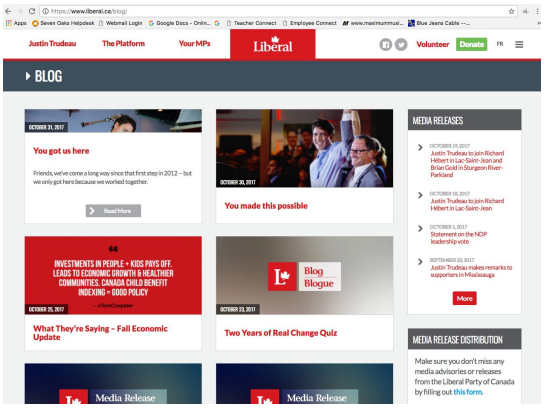

Concept Attainment Model Student Handout

Name:

Date:

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Website Activity

With your group

Look at the examples labelled "Yes" and "No", spend about ten minutes talking with your group about why you think that they are labelled that way. Write down some characteristics about both set.

Characteristics

Yes	No

Class discussion

Share your responses with the class

- Why are the two groups labelled differently?
- What characteristics did you or others notice?
- Add to the table above if someone thought of something you hadn't.

Task

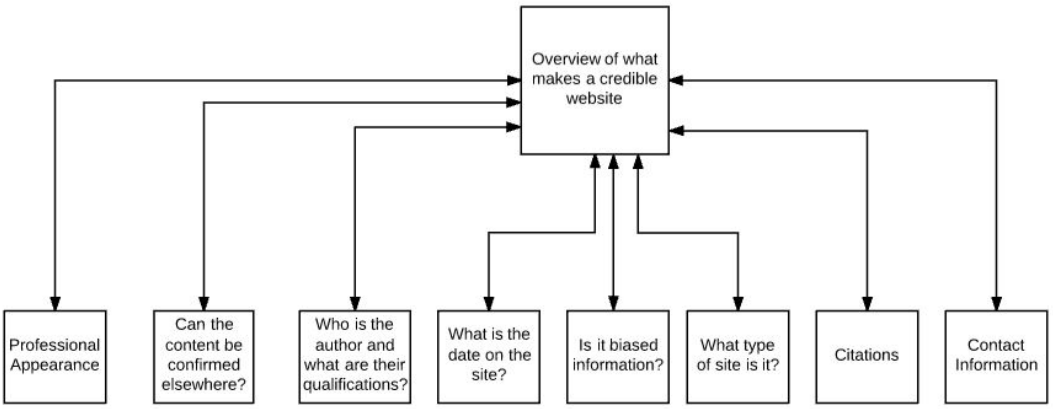
- Develop a theory as to why certain websites are labelled "yes" and why certain websites are labelled "no"

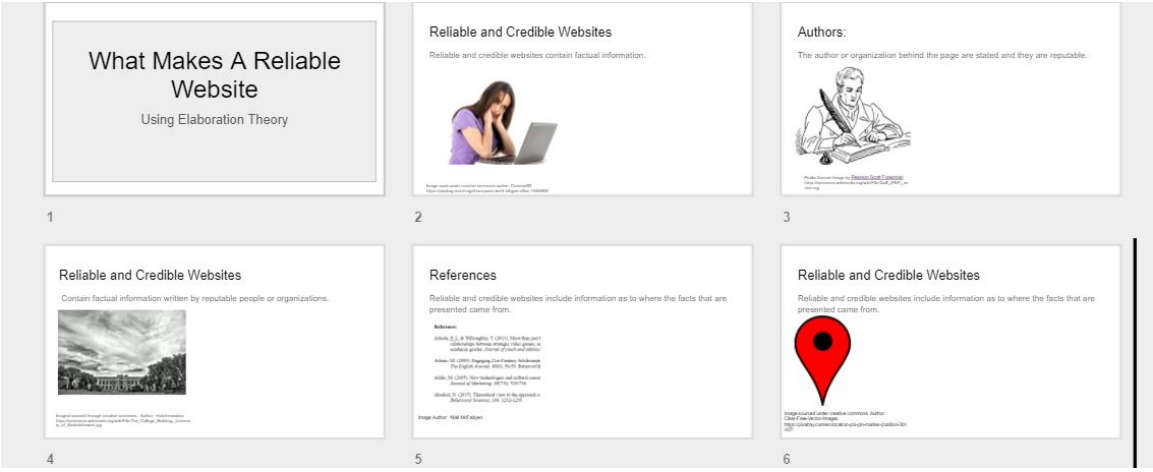
Begin this by writing something along the lines of "The group of websites are labelled "yes" because……."

Attach your response on a piece of lined paper.

Elaboration Theory Strategy:

This strategy is designed as a supplantive and supportive strategy for the teacher to employ if and when she desires in order to support and reinforce other learning done through the concept attainment model and the rational set generator. It will follow the concept map below and will use presentation slides.





Rational Set Generator: A rational set generator will be used to help learners identify examples of reliable and credible websites. This will be used to promote concept learning. Following the concept attainment activity, in a group discussion with students, the teacher and students will fill out the chart below based on the responses of students. The second chart below represents an ideal example that can be used if the responses are not adequate.

Blank template to fill in through class discussion

Website Reliability			
	Unreliable	Possibly reliable	Reliable
Author			
Citations			
Confirming Information			
Bias			
Site Type			
Date			
Contact Information			

Target template, can also be used if generated responses are not sufficient for learning goals.

Website Reliability			
	Unreliable	Possibly reliable	Reliable
Author	No named author stated or author just uses an alias.	Author is named but no qualifications are available	Author is named and appropriate qualifications are available.
Citations	No references.	There are references but they do not work or are unavailable.	Author has indicated where the information is from and the information is available.
Confirming Information	Information cannot be confirmed elsewhere.	Information is confirmed elsewhere, but is also disputed.	Information is confirmed elsewhere and is not disputed.
Bias	Obvious bias and one sided information.	No bias is evident but closer examination reveals possible one sided perspective	Information is objectively presented and contains no bias.
Site Type	Open for posting and editing without references or author statements.	The site is open for posting but “bad” information can be edited out or flagged.	Site is protected so that random people are not able to post permanent information
Date	Site is not dated.	Site is dated but is not current.	Site is dated and current.
Contact Information	No contact information.	Contact information exists but is not complete.	Clear and detailed contact information is present.

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Website Evaluation Practice:

Literacy, Inquiry, and Research With Technology

Website Evaluation Practice

Overview

Using your template and knowledge, go to the following websites and evaluate them to see if they are "good enough" for your research,.

- Mars planet facts news and images

https://mars.nasa.gov/

- History of Canada

https://www.canada.ca/en/canadian-heritage/services/history-canada.html

- The Dangers of Bread

http://www.geoffmetcalf.com/bread.html

Note

Read through the websites carefully. Use the techniques demonstrated and discussed in class. Indicate on your grid where the website falls into the different categories, add any additional thoughts about the website at the bottom of your sheet.

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Rational Set Generator Template for practice

Name:

Chosen Website:			
	Unreliable	**Possibly reliable**	**Reliable**
Author	No named author stated or author just uses an alias.	Author is named but no qualifications are available	Author is named and appropriate qualifications are available.
Citations	No references.	There are references but they do not work or are unavailable.	Author has indicated where the information is from and the information is available.
Confirming Information	Information cannot be confirmed elsewhere.	Information is confirmed elsewhere, but is also disputed.	Information is confirmed elsewhere and is not disputed.
Bias	Obvious bias and one sided information.	No bias is evident but closer examination reveals possible one sided perspective	Information is objectively presented and contains no bias.
Site Type	Open for posting and editing without references or author statements.	The site is open for posting but “bad” information can be edited out or flagged.	Site is protected so that random people are not able to post permanent information
Date	Site is not dated.	Site is dated but is not current.	Site is dated and current.
Contact Information	No contact information.	Contact information exists but is not complete.	Clear and detailed contact information is present.

Additional comments about the reliability and credibility of this website:

Is the website credible and reliable for research use?

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Assessment Questions

These questions are to be provided by the teacher to the students when she decides that it is an appropriate time for summative assessment. The teacher may modify the language and websites chosen if needed.

Format: Learners will submit three separate short answer questions where they will explain whether or not they think a website is reliable by indicating factors such as the author, the domain, type of site, etc. The teacher will have ongoing discussions with the learners about their progress developing strategies to evaluate websites.

The three websites are as follows:

United States
https://www.britannica.com/place/United-States

United States of America Quiz
http://go4quiz.com/13/usa-america-quiz-questions-answers-trivia-facts/

U.S. History and Historical Documents
https://www.usa.gov/history

Question for students: For the three websites listed above, explain whether or not the website is reliable and credible. Make reference to the criteria and ideas discussed in class.

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Assessment Rubric based on Manitoba Report Card Document

This rubric has been designed to evaluate student performance on this task in accordance with the Manitoba provincial government's report card policy contained in the document *Manitoba Provincial Report Card Policy and Guidelines: Partners for Learning* (2017). The language used in this rubric is consistent with the document on pages 22 and 23.

1: Limited understanding and application of skills and concepts.	**2: Basic understanding and application of skills and concepts.**	**3: Good understanding and application of concepts and skills.**	**4: Very good to excellent understanding and application of concepts and skills.**
The learner is rarely able to identify and evaluate elements of developmentally appropriate websites.	The learner is able identify and evaluate elements of developmentally appropriate websites approximately half the time.	The learner is often (more than half the time) able to identify and evaluate elements of developmentally appropriate websites.	The learner is able to consistently identify and evaluate elements of developmentally appropriate websites.
The learner is rarely able to make an accurate choice if a developmentally appropriate website is appropriate for research use based upon criteria and an evaluation procedure determined by the teacher or by themselves.	The learner is able to make an accurate choice if a developmentally appropriate website is appropriate for research use based upon criteria and an evaluation procedure determined by the teacher or by themselves approximately half the time.	The learner is able to often (more than half the time) make an accurate choice if a developmentally appropriate website is appropriate for research use based upon criteria and an evaluation procedure determined by the teacher or by themselves.	The learner is able to consistently make an accurate choice if a developmentally appropriate website is appropriate for research use based upon criteria and an evaluation procedure determined by the teacher or by themselves.

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Discussion Prompts: Factors That May Influence Website Credibility:

- Author: Who is the author of the source? What are their qualifications? If there is not an author, is there an organization? Is the organization reputable?
- Citations: Does the website provide references? Can you verify the information somewhere else? If there are websites, what happens when you follow up on them? Are they accessible? Are they truthful?
- Can you confirm the information elsewhere?
- Bias: Does the website contain any information that is one sided or untruthful?
- Appearance: Does the website appear professional?
- Type of site: What type of website is it? Can anyone post anything? Is it closed and dated, or is it open and vague?
- Date: Is the site dated? Is it current?
- Contact Information: Can the author or the site be contacted for further information or clarification.

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