

Locate & Evaluate with Climate Change Lessons

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Narrative Overview

Knowledge of Learners

Lake Ridge Middle School is nestled in a large suburb community in Woodbridge, Virginia. The community that lives within the Woodbridge area code (22192) is a little different than the student make-up within Lake Ridge Middle School and its immediate surrounding community. According to the United States Census Bureau (2022), Woodbridge, Virginia had a population estimated at 44,668 in April 2020. The population is broken up further by various race categories, which were also last reported in 2020. Woodbridge, Virginia has eight different race categories listed on the United States Census Bureau. These include White alone at 38.5%; Black or African American alone at 23%; American Indian and Alaska Native alone at 0.6%; Asian alone at 9.4%; Native Hawaiian and Other Pacific Islander alone at 0.2%; Two or More Races at 11.4%; Hispanic or Latino 42.3%; and White alone, not Hispanic or Latino at 21.2% (United States Census Bureau, 2022). According to the School Quality Profile put out by the Virginia Department of Education (2024), Lake Ridge Middle School has 1,406 students in the 2023-2024 school year. Lake Ridge's student population is broken into the following racial and ethnic groups: 30.5% white, 30.4% Hispanic, 21.6% black, 9.1% Asian, and 8.1% multiple races (School Quality Profile, 2024). The School Quality Profile (2024) depicts 10.5% of the student population with disabilities. The U.S. Census Bureau (2022) put 9.4% of Woodbridge's population in poverty, however there were methodology differences between different data sources, so this percentage is not conclusive. According to the School Quality Profile (2024), 37.8% of Lake Ridge's population is economically disadvantaged. According to the Lake Ridge Middle School

librarians, Dawn Farrell and Kathleen O'Conner, there is a significant military family presence within the immediate community and school.

Lake Ridge Middle School is known for its world class language program, which gives students the opportunity to learn languages, like French, German, and Spanish (Prince William County Public Schools, 2024). 24.4% of the school's population are English learners (School Quality Profile, 2024). The group of students I worked with were in the 8th grade gifted program. According to the School Quality Profile (2024), there are 447 8th grade students attending Lake Ridge Middle School. Within the 5th period gifted class I taught there were 10 students (6 girls, 4 boys) of varying ethnicities. Since the class was for gifted students, each student was working above the average student attending Lake Ridge Middle. There was one student who was able to easily understand the material, so she tended to explore ahead of the lesson. Just like any other, this class also had students with some difficulties, mostly proper utilization of time and socializing instead of collaborating.

Accommodations

To differentiate with the 8th grade gifted students, these lessons will be tiered. Everyone will start in the same place, but some students may progress through locating sources at the LRMS (Lake Ridge Middle School) library catalog more quickly than others, especially if there are not many sources to be found if the chosen research topic is more obscure. Each student will be responsible for locating 4-5 sources that they can evaluate using the CRAAP test, then rank their sources and justify why they put their sources in that order. There were 2 out of the 10 students that needed to move on to locating sources within a database due to the obscurity of their topic. Other

accommodations were made for students that required extra support remembering how to locate sources using the LRMS library catalog or the online databases on the PWC Public Library website, like the direction sheets, or collaborating with peers conducting research on a similar topic.

Instructional Preparation

My unit is titled, *Locate and Evaluate with Climate Change*. I collaborated with a gifted resource teacher, Ms. Tallman, at Lake Ridge middle school using the English SOL 8.9 The student will apply knowledge of appropriate reference materials to produce a research product: a) Collect and synthesize information from multiple sources including online, print and media b) Evaluate the validity and authenticity of texts (VDOE: Standards of Learning, 2022). Students will focus on three different Competencies from within the Shared Foundations of the AASL Standards: IV.A.2 Identifying possible sources of information, IV.B.1 Seeking a variety of sources, and IV.B.3 Systematically questioning and assessing the validity and accuracy of information. During two 40-minute classes, students will learn how to locate sources on a research topic of choice, which their gifted resource teacher required be on some sort of social justice topic, from the LRMS library catalog and from various databases on the PWC Public Library website. A third 40-minute class will teach them how to evaluate the possible sources by using the CRAAP test.

Students will use Stripling's Inquiry Process throughout these lessons. The students have already completed the first two stages of Stripling's Inquiry Process with their classroom teacher: connect (connecting to previous knowledge or own experience when they chose their topic) and wonder (developed questions that will lead to an active

investigation & decision making about their topic). The three lessons on locating and evaluating resources will culminate in a personal list of relevant, reliable sources on their chosen topic. Through these lessons, students will work on the investigate (students will locate sources on their topic), construct (students will draw conclusions about the sources located to decide if they are worth using), and express (students will create a list of sources, which they will share when collaborating with students that have similar topics) stages of Stripling's Inquiry Process. Students will reflect on the process of locating and evaluating sources throughout the lessons. There are three levels of Bloom's taxonomy the students will be accessing during the three lessons: applying, analyzing, and evaluating.

Instructional Delivery and Assessment

Pretest and Posttest

I used Microsoft Forms to create the pretest and posttest. The questions I asked gave me insight on what the students already understood about locating and evaluating sources. Each question was reviewed by my host librarians and by the collaborating teacher, Ms. Tallman. The title and questions from the form are listed below:

Locating & Evaluating Sources

1. Full name
2. Click your class period.

Period 3

Period 5

Period 5—post assessment

3. Where do you get your sources when conducting research for a school related project? Click any that you use below.

Google

TikTok

Library Catalog

Facebook

Database (World Book Online, Find It Virginia, etc.)

Reddit

Instagram

Wikipedia

4. Boolean operators, such as 'AND' 'OR' 'NOT' can help refine your search, narrow your topic, or filter out unwanted information.

True

False

5. What should you consider when evaluating a source? Click any that apply.

Currency

Relevance

The cover

Authority

Length of text

Accuracy

Purpose

Here is the link to see the actual Microsoft Form:

<https://forms.office.com/r/aM9rzclvNG?origin=lprLink>

Note: To differentiate with the eighth-grade gifted students, these lessons will be tiered. Everyone will start in the same place, but some students may progress through locating sources at the LRMS library catalog more quickly than others, especially if there are not many sources to be found if the chosen research topic is more obscure. Each student will be responsible for locating 4-5 sources that they can rank using the CRAAP test and justify why they put their sources in that order.

Lesson 1

Grade Level, Collaborative Content Area	Ms. Tallman's 8 th grade gifted class—5 th period 4/1/2024 at 11:52-12:39 (40 minutes for lesson)
Content Objective	8.9 The student will apply knowledge of appropriate reference materials to produce a research product. a) Collect and synthesize information from multiple sources including online, print and media. b) Evaluate the validity and authenticity of texts.
AASL Competency	IV.A.2 Identifying possible sources of information
Library Objective	Students will be able to locate possible sources from the LRMS library catalog.
Link to Background Knowledge	Ms. Tallman had her students choose a broad topic on Social Action. Some ideas that were brainstormed are racism, safety/guns, gender equality, reproductive rights, climate change, immigration/refugee crisis, LGBTQ rights, etc. By this time students have already completed the first two stages of Stripling's inquiry process: connect (connecting to previous knowledge or own experience when they chose their topic) and wonder (developed questions that will lead to an active investigation & decision making about their topic). The following lessons will culminate in a personal list of relevant, reliable sources on a chosen topic (through these lessons, students will work on the investigate, construct, and express stages of Stripling's inquiry process).

<p>Hook or Introduction</p>	<p>I noticed from the pre-assessment that every student who took the survey uses Google as one place to gather information when researching for a school project. Today, we are going to explore locating more reliable sources for you to use when conducting your research for this current project.</p>
<p>Engagement in Learning (This should be enough detail so someone reading the plan could teach the lesson)</p> <p>15 minutes for guided practice/demonstration</p>	<p>This lesson will take place as whole group instruction with guided practice/demonstration (Saunders & Wong, 2020), then move into independent practice.</p> <p>I will use the topic of climate change to guide students through the process of locating sources on the LRMS library catalog. Keywords will also help students narrow down their topic to make locating relevant sources easier.</p> <p>Each student will use their device and will follow along with me on the demonstration before they get to explore independently using their own topic.</p> <p>Let's open Lake Ridge Middle's library page. It should open up to Destiny Discover. Now, we are going to type 'climate change' into the search box at the top of the page and push search.</p> <p>We see 41 results for 'climate change.' But are all of these relevant?</p> <p>When we take a closer look, what do you notice about the various sources?</p> <p>I notice that there is a mixture of fiction and nonfiction (hopefully students say this or notice other things).</p> <p>Since we are conducting research, we want to be sure that our sources give factual information on the chosen topic.</p> <p>Let's move into the catalog located in the 'Back Office' so we can sort the results differently (type in climate change and press search). You'll see the same 41 results, listed going down. If you click the drop-down arrow next to 'sort by' and push call number (go), it will put the nonfiction results first, making it easier to look through relevant sources.</p> <p>Looking through this list of sources, I'm noticing the sources are not just about climate change. Clicking on any of these results allows me to read what it is about to see if it would be worth checking out. I can also narrow down my topic by using some of the keywords. Looking at the results makes me curious about climate change and how it might affect humans.</p> <p>So, let's go back to our 'library search' and then click on the 'power' tab on the righthand side. You'll notice the 'power' tab provides you with Boolean terms (words and symbols, such as AND or NOT, that let you narrow your topic, refine your search, or filter out unwanted information) that could be useful. I'm going to type in 'climate change' on the first</p>

<p>15-20 minutes to explore and locate sources</p>	<p>line, I'll keep the Boolean term 'AND' checked, and type in 'human' on the second line. When I push search, I get 9 results.</p> <p>Sifting through the results I notice some are irrelevant and do not really match my search, like <i>Snow Leopards</i>.</p> <p>If I go back to my search (refine your search), let's see what happens when we click the dropdown, changing it from 'keyword' to 'subject,' and then pushing search. There are only 3 listed results and they seem to potentially match my needs. Remember, you can click on the title to get more details, which will help you decide if it's worth checking out from the library.</p> <p>In a few minutes, you will get the opportunity to practice locating relevant sources on your chosen topic through the LRMS library catalog, like we just did. But first, I would like to go over this Source Citations graphic organizer (pass out sheet). If you find a source that you would like to explore further for your research project, then you need to fill out the information on the source using this graphic organizer.</p> <p>That way, if you do indeed use the source for your research, then you will already have the necessary information to write the citation.</p> <p>Before you explore, please, sit near peers with similar topics. This will allow you to collaborate with each other on possible sources.</p> <p>Now, let's get exploring! I will be walking around helping where needed. You can also ask a neighbor for assistance if you forget where to go or what to do on the LRMS library catalog.</p> <p>*You can also use the directions list for assistance.</p> <p>Allow time for exploration.</p> <p>If students did not find any sources in the LRMS library catalog, they will be asked the following: Did you have trouble finding sources on your topic? Why do you think that is?—jot down on the Source Citations graphic organizer.</p>
<p>Assessment & Reflection</p>	<p>Student worktime will show if they understand how to locate relevant sources on the LRMS library catalog.</p> <p>The Source Citations graphic organizer and Reflection will be a formative assessment, showing if they were able to find 1-2 sources that may be used and what they did to locate those sources (keywords). Or reflect why they could not find sources on their topic, if they could not find any.</p> <p>*Some topics may not have many sources available within the LRMS library. Checking out some sources from the public library could help make them available for those topics. However, some students did not have their topics completely chosen prior to the first lesson.</p>
<p>Materials/Resources</p>	<p>Student devices LRMS Library Catalog Directions sheet Source Citations graphic organizer with Reflection Questions Microsoft form</p>

Lesson 2

Grade Level, Collaborative Content Area	Ms. Tallman’s 8 th grade gifted class—5 th period 4/2/2024 at 11:52-12:39 (40 minutes for lesson)
Content Objective	8.9 The student will apply knowledge of appropriate reference materials to produce a research product. a) Collect and synthesize information from multiple sources including online, print and media. b) Evaluate the validity and authenticity of texts.
AASL Competency	IV.B.1 Seeking a variety of sources IV.A.2 Identifying possible sources of information
Library Objective	Students will be able to identify 1-2 possible sources on their chosen topic from each covered database on the PWC public library website.
Link to Background Knowledge	Ms. Tallman had her students choose a broad topic on Social Action. Some ideas that were brainstormed are racism, safety/guns, gender equality, reproductive rights, climate change, immigration/refugee crisis, LGBTQ rights, etc. Students are still working toward a personal list of relevant, reliable sources on a chosen topic (this lesson still has students working on the investigate, construct, and express stages of Stripling’s inquiry process).
Hook or Introduction	When using a search engine, such as Google, you can be overwhelmed with the number of results, often which lack credibility. This can make locating credible information challenging. Today, we are going to take a look at the PWC Public Library electronic resources where we can access some free databases (Issues & Controversies, Explora Public Libraries, and Find It Virginia). Databases include information from peer reviewed articles written by credible authors. They also have information from newspapers, magazines, and encyclopedias. Databases make it easier to find more credible information when researching.

<p>Engagement in Learning (This should be enough detail so someone reading the plan could teach the lesson)</p> <p>10 minutes for guided practice/demonstration (Issues & Controversies database)</p>	<p>This lesson will take place as whole group instruction with guided practice/demonstration (Saunders & Wong, 2020), then move into independent practice.</p> <p>We are going to explore a database together, through guided practice, then you will get to explore that database with your own topic.</p> <p>First, let's start by opening up the LRMS library page. We're going to go to the Prince William Public Library System and click on #3—PWPLS Electronic Resources.</p> <p>From here, we can scroll down to an alphabet and we will be clicking on different letters to explore a few different databases.</p> <p>However, in order to use some of the databases from the PWC Public Library, you will need a library card, so get those ready.</p> <p>1) The first database we'll explore is Issues & Controversies under the letter I. Click on Issues & Controversies. Once you click on it, you may be prompted to login with your library card or it may let you into this database without it.</p> <p>Next, we'll go to the search box and click on 'Advanced Search.' I'm still using 'climate change' as my topic. From the last lesson, I decided using the keywords 'climate change' AND 'humans' when searching would give me results closer to what I want, so I will continue to use those keywords and the Boolean 'AND.'</p> <p>I want to point out that this search automatically has 'Pro/Con Articles' selected. We're going to leave it selected and push search.</p> <p>How many results popped up? Yes, I got 85 results too.</p> <p>Now as you are sifting through possible articles, you will need to make some decisions about your research. For example, what I'm looking to include in my research—do I want to know the effects of climate change on humans (health/environment) or do I want to know how humans may be causing climate change? The difference matters because you want to select sources that give you the information you need.</p> <p>I found an article for each possibility: <i>Cloud Seeding: Is Cloud Seeding a Smart Means of Drought Relief?</i> or <i>Climate Change: Should the U.S. Government Take Aggressive Steps to Combat Climate Change?</i></p> <p>Let's click on the first article <i>Climate Change: Should the U.S. Government Take Aggressive Steps to Combat Climate Change?</i> There are a lot of helpful tools at the top of each article that I quickly want to go over.</p> <p>Notice how the keywords I searched are highlighted, proving that these results mention 'climate change' and 'humans.' If you click 'Highlighting' at the top, your keywords will no longer be highlighted.</p>
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<p>10 minutes for independent exploration (Issues & Controversies database)</p>	<p>If you would like the text to be read to you, then press ‘Read Aloud.’ Press it again to pause it. The voice is robotic sounding, so you may not like this option.</p> <p>‘Cite’ gives you a lot of the information you would need to cite the source. You can choose a specific format, like MLA, after you click it. The ‘Share’ allows you to email the article to yourself, in case you need to easily access it again.</p> <p>I really like the ‘Translate’ tool. It allows you to translate the article into a different language and there are a lot of languages available. The ‘Read Aloud’ option will even read it in that language!</p> <p>Now, that we have fully explored the database, Issues & Controversies, together, you will be given 10 minutes to explore it using your chosen topic.</p> <p>Please, sit near peers with similar topics (differentiation—grouping students for collaboration). This will allow you to collaborate with each other on possible sources.</p> <p>If you find a source that you would like to explore further for your research project, then you need to fill out the information about the source using the Source Citations graphic organizer (Saunders & Wong, 2020) from the last lesson. Today, we are focused on the bottom chart labeled, PWC Public Library. That way, if you do indeed use the source for your research, then you will already have the necessary information to write the citation.</p> <p>Now, go ahead and get exploring! I will be walking around helping where needed. You can also ask a neighbor for assistance if you forget where to go or what to do.</p> <p>*You can also use the directions list for assistance.</p>
<p>10 minutes for guided practice/demonstration (Explora database)</p>	<p>After the 10 minutes of explore time on Issues & Controversies, we will conduct a guided practice/demonstration of another database, Explora.</p> <p>2) Explora is also under Online Databases on LRMS back-office library page and you do NOT need your library card.</p> <p>We will click on the letter E, then we will click on Explora Public Libraries. You will need your library card to sign in.</p> <p>On the left side of the screen, click on ‘new search,’ then click on ‘Advanced search,’ which will allow you to use the Boolean term ‘AND.’</p> <p>Now, let’s type ‘climate change’ into the first search box. I want you to notice how keywords/phrases pop up as you type. These keywords or phrases may be helpful to use. Let’s type ‘humans’ in the second search box, and push search to see the results.</p> <p>How many results popped up? Yes, I got 3,283 results too.</p>

<p>10 minutes for independent exploration (Explora database)</p>	<p>At the top of the screen, there are boxes directly below the search box that will allow you to filter your query even further.</p> <p>Choosing the 'Peer reviewed' button will show only articles that have been reviewed by a group of people who work in the same subject area. It will also help narrow down your results.</p> <p>I found a couple possibilities that may be beneficial to my research.: <i>Five Young Activists Who Are Changing the World</i> or <i>Is mankind warming the Earth?</i></p> <p>Let's click on the first article, <i>Five Young Activists Who Are Changing the World</i>.</p> <p>This database also has some helpful tools at the top of each article and I want to quickly go over them.</p> <p>The bookmark symbol allows you to save the article to your bookmarks, if you are logged in with your library card.</p> <p>The quotation symbol lets you pick a citation format and cites it for you in the chosen format.</p> <p>You can create a project folder when logged in with your library card and add the article to that folder by clicking the folder icon.</p> <p>You can share the article by pushing the arrow icon or download the article to your computer by pushing the down arrow icon.</p> <p>Everyone click 'Access now (Online full text)'. There are two more tools available now. The globe icon allows you to translate the article into another language. The Headphones icon allows you to have the article read aloud to you. However, audio is only available in English.</p> <p>Now, that we have fully explored the database, Explora, together, you will be given 10 minutes to explore it with your chosen topic. Please, sit near peers with similar topics. This will allow you to collaborate with each other on possible sources.</p> <p>If you find a source that you would like to explore further for your research project, then you need to fill out the source information using the Source Citations graphic organizer. Remember, use the bottom chart labeled, PWC Public Library.</p> <p>Now, go ahead and get exploring! I will be walking around helping where needed. You can also ask a neighbor for assistance if you forget where to go or what to do.</p> <p>*You can also use the directions list for assistance.</p> <p>Extra:</p> <p>If students finish their exploration on Explora quickly, then they may use what they have learned to explore another database, Find It Virginia.</p> <p>3) Find It Virginia—For Teens—MasterFILE Complete. This database includes Explora (within Explora, students will see MasterFILE Complete and Read It!, which is great for EL students).</p>
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Assessment & Reflection	Student worktime will show if they understand how to locate relevant sources on the databases located on the PWC public library website. The Source Citations graphic organizer will be a formative assessment, showing if they were able to find 1-2 relevant sources on each database. There will also be Reflection questions allowing students to reflect on the process of locating sources on PWC public library databases.
Materials/Resources	PWC Public Library card (or at least the number) Student devices PWC Public Library online resources (Issues & Controversies, Explora, & Find It Virginia) Directions sheet Source Citations graphic organizer with Reflection Questions

Lesson 3

Grade Level, Collaborative Content Area	Ms. Tallman's 8 th grade gifted class—5 th period 4/3/2024 at 11:52-12:39 (40 minutes for lesson)
Content Objective	8.9 The student will apply knowledge of appropriate reference materials to produce a research product. a) Collect and synthesize information from multiple sources including online, print and media. b) Evaluate the validity and authenticity of texts.
AASL Competency	IV.B.3 Systematically questioning and assessing the validity and accuracy of information
Library Objective	Students will be able to evaluate 3-5 sources using the criteria Currency, Relevance, Authority, Accuracy, & Purpose (the CRAAP test).
Link to Background Knowledge	Students will be evaluating some of the sources they located over the past two lessons. Ms. Tallman had her students choose a broad topic on Social Action. Some ideas that were brainstormed are racism, safety/guns, gender equality, reproductive rights, climate change, immigration/refugee crisis, LGBTQ rights, etc. Students are still working toward a personal list of relevant, reliable sources on a chosen topic (this lesson still has students working on the investigate, construct, and express stages of Stripling's inquiry process).
Hook or Introduction	There are times when social media can be helpful, like if you want to research the newest fashions. But when you are gathering information for a school research project, how sure are you about those social media sources? During today's lesson, we are going to use specific criteria to evaluate the sources you have located over the previous two lessons.

<p>Engagement in Learning (This should be enough detail so someone reading the plan could teach the lesson)</p> <p>15 minutes for guided practice/demonstration</p>	<p>This lesson will take place as whole group instruction with guided practice/demonstration (Saunders & Wong, 2020), then move into independent practice.</p> <p>We are going to revisit some of the articles I reviewed in the last lesson. We'll evaluate a couple articles together, through guided practice, then you will get to evaluate previously located sources on your topic.</p> <p>As we review each article, we will be looking at five criteria: Currency (how old is the source), Relevance (is the source related to your topic), Authority (who is the author, where is it published), Accuracy (is it supported by evidence), and Purpose (what is the motive for publishing this source).</p> <p>We will use this checklist when evaluating our sources. Let's look at the article <i>Five Young Adults Who Are Changing the World</i> from the database, Explora.</p> <p>Currency: when looking at the 'Published in' I can see the date is Jan. 2019, which is about 5 years old; not bad. Relevance: this article goes with my topic of climate change—how it affects human health and how to make improvements. Authority: this article was published in <i>Faces</i> magazine is a well-established kids magazine with articles about world topics; if I click on the author, I can see she has published a few different articles (a couple of them on climate change) in various places. Accuracy: the article being located on the database, Explora, proves that it is evidence based. Purpose: the motive for this article is to show how young people are trying to change the devastating effects of climate change. Upon reviewing my checklist, I noticed that this article meets all five criteria, so I believe this source will be worth using.</p> <p>Let's look at one more example, <i>Is Mankind Warming the Earth?</i>, also from the database, Explora.</p> <p>Currency: this article was published in 1978, which is over 40 years old; there are more current articles that would be better to use. Relevance: this article does go with my topic. Authority: this article was published in <i>Bulletin of the Atomic Scientists</i>, which is longtime published academic journal. Accuracy: this article is located on the Explora database, which proves it is evidence based. Purpose: the motive for this article is to show how humans are warming the Earth. Upon reviewing my checklist, I noticed that this article does NOT meet all five criteria, so I think I'm going to continue locating other sources that are more current.</p>
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<p>20 minutes for independent exploration and collaboration</p>	<p>Now, it's your turn. Take your source lists from the Source Citation graphic organizer and choose 3-5 sources to evaluate. Use the Source Evaluation Checklist to evaluate your sources. Then, reflect further on your sources by ranking them and justifying the order (use the Reflect and Rank Your Sources sheet).</p> <p>Once you have completed your Reflect and Rank Your Sources sheet, find a partner to share and discuss your rankings. What did your partner share that stuck out to you?</p> <p>I will be walking around helping where needed. You can also ask a neighbor for assistance.</p>
<p>Assessment & Reflection</p>	<p>Student worktime will show if they understand how to evaluate relevant sources using the CRAAP test (record on Source Evaluation Checklist). The Source Evaluation Checklist will be a formative assessment, showing if they are able to evaluate 3-5 sources that they previously located.</p> <p>Reflect and Rank Your Sources sheet will also be used as a formative assessment, allowing students to further reflect on their sources' worth and discuss their choices with a partner.</p> <p>There will also be Reflection questions allowing students to reflect on their next steps in their research project (do they need to locate more sources or can they move on to notetaking).</p>
<p>Materials/Resources</p>	<p>PWC Public Library card (or at least the number) Student devices PWC Public Library online resources (Issues & Controversies, Explora, & Find It Virginia) Source Citations graphic organizer with Reflection Questions Source Evaluation Checklist Reflect and Rank Your Sources sheet</p>

Assessment

The pretest and posttest have questions that will allow me to see if students understood the lessons. Each lesson has a graphic organizer with brief reflection questions for students to complete at the end. The graphic organizers allow me to see student progress during and at the end of each lesson (see appendices for the graphic organizers).

Results and Reflection

Results

In comparing the results of the pretest to the posttest, I noticed my lessons did make an impact on students' learning. On the posttest, most students (7 out of 9) chose the more reliable places, like the library catalog or a database, when searching for sources for a school-based research project. I did not need to spend too much time on Boolean operators because students had a good understanding of how and why to use them, which I noticed from the pretest. In the pretest, most students did not choose all of the criteria used when evaluating sources and some students chose too many criteria. The posttest showed that 8 out of the 9 students that completed it were able to choose the correct criteria for evaluating sources. One student was unable to complete the posttest due to leaving early. The boys did better than the girls on the posttest, but there were less boys and only 3 of the 4 boys were able to complete the posttest. The graphic organizers gave me the opportunity to see how students understood the lessons and their tasks in real time and I was able to help any student who had trouble right away. Most students used the provided direction sheets and or their peers for help/collaboration. Most help sought from me was coming up with other search terms or narrowing down a topic.

Click the link to see an Excel spreadsheet of the actual results of the pretest and posttest:

 [Locating & Evaluating Resources.xlsx](#)

Reflection

I had some reservations before meeting the 8th grade students I was to teach because my many years of teaching have been in elementary schools. I was not used to teaching in a middle school, but the students were open to learning about locating and evaluating

sources; they were even a bit excited. My first lesson took place in the library and the other two took place in Ms. Tallman's classroom because the library was being used for a World War II trunk show for 7th grade social studies. The librarians, Dawn Farrell and Kathleen O'Conner, helped me learn a little about the student population and how to navigate the Lake Ridge Middle School library and the resources located in its 'Back Office.' My collaborative teacher, Ms. Tallman, gave me some background knowledge on her gifted students and reviewed my lessons to ensure they would meet the needs of her students. She also informed me day of that she was unable to get the student public library cards in time for my second lesson, so I had to adapt that lesson. Instead of the students using databases via the PWC Public Library, we had to pivot and only use the database Explora, which is located in the 'Back Office' of the LRMS library webpage, which did not require a library card number. I did quickly go over where they would go if using the PWC Public library databases and they also have access to the directions sheet, which Ms. Tallman planned to use once they received their library cards. Each student grew their locating and evaluating sources skills and I am confident they will be able to take what they learned and apply it elsewhere, like to navigating other databases or simply using various keywords to search for the best material.

The teacher, Ms. Tallman, requested some library assistance in teaching her students how to locate sources for a research project on social justice topics. I listened to her requests and planned the lessons to go along with the assigned research project. The only thing students had done in their research process was pick a possible social justice topic. As I planned the lessons, I asked Ms. Tallman for her input and made small adjustments. I did the same with the pretest and posttest. Usually only small suggestions

were made, like for the assessment, Ms. Tallman suggested adding Instagram and Wikipedia to places students may search for information while conducting research for a school project on a social justice topic. With all that information in mind, I would place these lessons between the Coordination and the Ultimate Collaboration stages on the Pyramid of Collaboration presented by Betty Marcoux in *Levels of Collaboration: Where Does Your Work Fit In?* (2007). I showed students how to use resources and even worked with students to develop their research projects by choosing appropriate sources, which is a part of the Coordination stage (Marcoux, 2007). But Ms. Tallman did assist with reviewing the lessons and material before it was taught and gave suggestions on how to improve it for her students, which is more of the Ultimate Collaboration stage (Marcoux, 2007). She also walked around to help students when there were questions or to help with narrowing down a topic or choosing appropriate keywords.

I think a glow I had during this experience was the ability to adapt. I allowed for more opportunities for students to discuss questions posed with their tablemates, which was not written in my lessons, but I could sense the need for more discussion/collaboration (this is present in my recorded lesson). A grow I had during this experience was time management, at least for my first lesson. I got better with each lesson. It is a challenge entering into a classroom for the first time; it takes some getting used to. By the third lesson, I knew the class times better than the teachers. If I taught these lessons again to a similar group of students, I would get a list of the chosen topics so I could have some physical sources for students to use if the school library did not have sources already. I would also time the lessons to ensure the students have their library cards so that they may actually explore the PWC Public library electronic

databases with me present. However, I have confidence that this group of 8th graders will be able to use the direction sheet I created to navigate the databases on their own, or perhaps with support of Ms. Tallman.

References

- Marcoux, B. L. (2007). Levels of collaboration: Where does your work fit in? *School Library Media Activities Monthly*, 24(4), 20-24. [marcoux.pdf](#)
- Prince William County Public Schools (2024). *Lake Ridge middle school: Our school*. Retrieved from https://lakeridgems.pwcs.edu/our_school/index
- Virginia Department of Education: School Quality Profiles. (2024). *Lake Ridge middle quality profile: Enrollment*. Retrieved from <https://schoolquality.virginia.gov/schools/lake-ridge-middle#fndtn-desktopTabs-enrollment>
- Virginia Department of Education: Standards of Learning. (2022). *Standards of learning for English*. Retrieved from <https://www.doe.virginia.gov/teaching-learning-assessment/k-12-standards-instruction/english-reading-literacy/standards-of-learning>
- United States Census Bureau. (2022). *Quick facts, Woodbridge cdp, Prince William county, Virginia*. Retrieved from <https://www.census.gov/quickfacts/fact/table/woodbridgecdpvirginia.princewilliamcountyvirginia/PST045222,PST045221#qf-headnote-a>